



June 15, 1874.]



OFFICE,

COLONIAL BUILDINGS—44A CANNON STREET, LONDON, E.C.

particulars of subscriptions, advertisements, &c., see the centre of the book.



The annual meeting of the Pharmaceutical Society, on May 14, was decorously dull. No attempt was made, even by a show of hands, to take the feeling of the members on the subject which, according to the report, the Council had distinctly delegated to that meeting for decision. Two hours' talk is the ordinary of what took place.

The previous evening (May 19) the third annual Pharmaceutical Dinner took place at the Crystal Palace. The company numbered 237 (some 50 fewer than last year). Several eminent members of the medical profession attended, and the speeches were chiefly characterised by an effusion of compliments between physicians and pharmacists. Complaints to the scantiness of the dinner were very general, but in other respects it was a most enjoyable evening.

The *conversazione* at the South Kensington Museum, the previous evening, was more than usually brilliant and well attended. Over 3,000 ladies and gentlemen were present, and some excellent military music and glee singing filled up the passing hours.

The election of members of Council resulted in the return of the former representatives who offered themselves, Mr. Birmingham securing the seat left vacant by the retirement of Mr. Urwick. For the fourth time in succession Mr. Hills headed the poll.

On May 21 the Select Committee of the House of Commons, which is now investigating the Adulteration Act, examined a number of the wholesale and retail druggists of London. The difficulties attending the application of the Act to the business of chemists and druggists were very fully stated. It was submitted to the Committee that drugs were but seldom imported in a state of absolute purity; that many preparations gradually and almost imperceptibly deteriorated in quality; and therefore that it would be unfair to hold a chemist responsible for every deviation from the standard. The sale of articles under conventional but not strictly accurate titles was also alluded to. The majority of the Committee seemed to appreciate the circumstances special to the trade, though some of the members of the Committee seemed haunted by curious superstitions as to practices prevalent among country druggists.

Besides the evidence before the Adulteration Act Committee which we report at length, some startling disclosures have been submitted on other days. Mr. Whitworth Jackson, who described himself as a wholesale tea merchant, and who is said to be connected with the Himalaya Tea Company, gave some choice extracts from his experience. He described the practices of certain "tea improvers," but declined to give any names. He said the large wholesale houses did not adulterate, nor was he aware that retail firms were in that habit; he attributed the

practice chiefly to what he termed the semi-wholesale houses. Mr. Allen, the analyst of Sheffield, also gave evidence, chiefly on the subject of tea. He said that many incompetent analysts had been appointed, among them a number of medical men, who had literally to learn their business. He did not consider "facing" tea an adulteration, nor turmeric in mustard; nor annatto in cheese. He thought the Act had done a great deal of good in Sheffield. He would appoint referees for each class of substances. Perhaps, however, the most exciting evidence was that of Dr. Bartlett, in reference to corn flour, which he condemned as almost worthless as a nutriment, being, in fact, nothing better than ordinary rice starch without the blue. Mr. Coleman, one of the Committee, had the satisfaction of hearing his own firm's preparation, which bore the Moscow Silver Medal, emphatically condemned. Mr. Francis Sutton, of Norwich, however, regarded corn-flour as "fairly good food." Dr. Tidy, too, who was examined a day or two after, was less sweeping in his condemnation. Dr. Hassall, has written to the *Times* maintaining that the retail dealer must be held responsible for any adulterated articles he may sell.

At a lecture to the Chemists and Druggists' Society in Dublin on the Adulteration of Food, &c., Dr. Cameron, the city analyst, stated that during the past year the sum of 400*l.* had been added to the civic treasury for fines for the adulteration of milk alone.

In connection with this question of the nutritive properties of corn flour starch, and such like articles, we refer our readers to the interesting letter from Messrs. Cadbury, of Birmingham, on the mixing of starch with sugar, which we published in our April number, and which now re-appears in our advertisement pages (37).

Dr. Sedgwick Saunders has been elected Medical Officer of Health and Food Analyst for the City of London, in the room of Dr. Letheby, retired, by a majority of 76 to 5.

Irish pharmaceutical affairs still continue in an interesting condition. The College of Physicians has replied to the Apothecaries' Hall, and refuses point blank to withdraw its bill. The apothecaries have further courted the druggists, and the latter had an interview with the representatives of the Hall last Friday, when the most perfect harmony seems to have prevailed.

Professor Bedford, of New York, has awarded his prize (the new edition of Parrish's "Pharmacy") to Mr. J. B. L. Mackay, of Inverness. With nearly all the candidates from this part of the kingdom, it will be noticed that Scotland and Ireland have secured the first and third places in the competition.

The first meeting of the new Pharmaceutical Council was held on the 3rd inst. Having re-elected Mr. Hills as president, Mr. Bottle vice-president, and Mr. Williams treasurer, the various committees were appointed, and the officials of the Society were confirmed in their positions for another year.—On the President's suggestion it was resolved to invite the British Pharmaceutical Conference to a *soirée* in the Society's house on the occasion of the meeting in London next August.—A conversation took place relative to the examination of certain chemists before the Parliamentary Committee on the Adulteration Act. Some difference of opinion existed as to the propriety of the Pharmaceutical Society as a body accepting the responsibility of prosecuting cases of adulteration. Mr. Williams thought some ten or twelve centres, with thoroughly qualified and well-paid analysts, would be better than local analysts in every district.—After a short discussion (Mr. Sandford dissenting), it was agreed to send a deputation to the Pharmaceutical Congress at St. Petersburg, and to allow 80*l.* for expenses. Messrs. Greenish and Sutton were selected.—A discussion then took place on the subject of increasing the number of annuitants on the Benevolent Fund. Mr. Bottle proposed that four should be elected,

and this was seconded by Mr. Brown. These gentlemen urged that they could safely trust to the annual subscriptions for a portion of these annuities. Mr. Betty moved, and Mr. Sandford seconded, an amendment to the effect that no annuities should be granted more than the interest on invested capital would pay. They considered this was the only safe policy. Mr. Betty thought the piteous appeals that we sometimes see of London hospitals without rich endowments ought to warn the Council not to depart from this principle. Mr. Sandford said he believed the feeling of the annual meeting was almost unanimously against the original proposal. The amendment was voted for only by Messrs. Betty, Hills, Radley, Sandford, and Williams. The original motion was ultimately carried by a large majority.

Mr. Edward Smith's sharp criticism on what he regarded as the defects and excrescences of the new Pharmacopœia Appendix * has been the subject of further rebuke. Mr. Sandford "greatly regrets" that the spirit of banter should have so far overcome Mr. Smith as to induce him to write down remarks so disrespectful to the Medical Council; and he asks "whether, if Mr. Smith's paper be taken as indicating the tone and temper of the Pharmaceutical Society, a request for such an extension of mutual goodwill and confidence between us and the Medical Council [as Mr. Smith desires], or profession generally, is likely to be conceded." The "if" in that last sentence seems to have aroused the spirit of banter again, for, in a rejoinder to Mr. Sandford's communication, Mr. Smith writes:—"Well, if your uncle were your aunt, matters would be serious, no doubt; but as my paper does not indicate the tone and temper of anything or anybody besides myself, the Society need not fear, but may go on its way rejoicing in the sunbeams of medical 'goodwill and confidence.'" He also denies having had the slightest personal feeling in the matter, and assures Mr. Sandford he should have made exactly the same remarks "if the book had arisen by spontaneous evolution." To this Dr. Redwood responds, and administers a somewhat indignant lecture to these troublesome pharmacists who do not sufficiently appreciate the privilege of assisting in the improvement of the British Pharmacopœia. Dr. Redwood again ably defends the Appendix, which, according to general opinion, scarcely requires any further defence; and he also gives a useful formula for an emulsion of phosphorated oil, which we reproduce in our "Pharmacy" column.

Mr. Geo. Brownen, F.C.S., who seems to have been the author of the discovery of lead in aerated waters, reiterates his assurance on this point in contradiction to the experiments of Professor Atfield, which we reported last month.

We cannot couple much regret with our announcement that the "Universal Drug Supply Association (Limited)" has come to grief. That interesting company consisted of a major-general, two captains, one honourable, two solicitors, and an M.D., and has kept an open chemist's shop in Oxford Street for the past twelve months. They are now winding up, and the extent of their transactions may be estimated from the fact, while their debts are under 250*l.*, their assets are returned as 136*l.* cash, and upwards of 200*l.* worth of stock in trade! besides a lease worth 400*l.* This comes of playing at shop.

Messrs. Goodall, Backhouse & Co. have gained an action against the Universal Sauce and Condiment Company for imitating their Yorkshire Relish. It cost the defendants something over 50*l.*

The Wolverhampton magistrate has heard with horror of the "gross fraud attempted on the public" by a chemist who had used an American M.D. degree. Bless that stipendiary's innocent soul! Why, very few of us are what we pretend to be, and the law of England only laughs at those poor, misguided men who waste five years of their lives in order to gain a footing which others can secure in as many hours. The letter of the defendant (Mr. Follows), which we publish, is very moderate in its expressions and forcible in its arguments.

On June 23 Sir Thomas Chambers, Q.C., M.P., will call the attention of the House of Commons "to the extensive system of trading carried on by the civil servants of the Crown under the guise of co-operative societies," and will move a resolution thereon.

Our next number will be a valuable one for advertisers, as we shall give an almost universal circulation among English-speaking druggists. Ten thousand copies, at least, will be distributed.

* See last number, p. 167.

CORTEX RHAMNI FRANGULÆ.

BY JOSEPH INCE.

I HOLD it strictly within the province of a pharmacist to make himself acquainted with, and to communicate to others the therapeutical characteristics of a drug, or the medicinal value of any substance in *Materia Medica*. Were this not the case, one half of the papers annually contributed would be excluded, and medicine, as much as pharmacy, would suffer.

It is not for us to attempt the treatment of disease, but surely it is not wandering beyond our sphere to recommend and advocate the use of such remedies, whether new or old, which both observation and experience have proved of service.

Knowing then from recent investigations that the *Rhamnus Frangula* bids fair to be a valuable addition to our list of purgatives, I venture to bring before the notice of the reader what is at present known respecting its introduction, its history, and its remedial application.

The *Rhamnus catharticus* has long enjoyed a popular reputation: the botanical difference between that and the *Alder Buckthorn* (*Frangula*) is pointed out by Bentham, who describes the latter as growing in hedges and bushy places throughout Europe and Russian Asia, except the extreme north. In Britain rather more frequent than the common *Rhamnus*, but still rare in Scotland. Flowers in the spring or early summer. An elaborate analysis of the two barks is given by M. Gerber (*Pharm. Journ.*, vol. ix., p. 537, Old Series) and commented on by M. Binswanger. The inference drawn from the results obtained was that on the peculiar nature of the *bitter matter* depended the variation in medical efficacy.

That contained in *R. Frangula* was more of the nature of resinous than of extractive matter, and was very soluble in cold alcohol. The bitter matter of *R. catharticus* was crystallisable, soluble with difficulty in alcohol, but very readily in water; the taste also differed from that of *R. Frangula*, being not disagreeable, but purely bitter.

The first memorandum on *Rhamnus Frangula* is a note from Mr. George Mennie, of Plymouth, who recommends it as an aperient (April 7, 1813). When Mr. H. C. Baildon made some brief remarks on *Rhamnus Frangula*, at Edinburgh, his suggestions, being very short, did not excite particular interest, but that gentleman is entirely due the introduction of this bark. A Dutch friend, Mr. Barachson, sent a small sample to Scotland for examination. Senna we well know, and children better, and it was claimed for the new aperient that it would act as an efficient purgative without the griping and nauseous qualities of that unhappy Alexandrian leaf. In Holland it was in constant use, being there prepared simply as a decoction. The formula was:—

Cort. Rhamni Frangulæ, 3iv.
Aque Oj., decoque ad Oss.

Dose: Two or three tablespoonfuls for an adult, night and morning occasionally.

I have tried it in that form with admirable success; but seeing that in private families few are sufficiently skilful to make an accurate decoction, and that in aristocratic circles none will take the trouble, I recommended a proof spirit tincture, but was anticipated by Mr. Giles, who proposed a liquor, the product of which was further improved by Mr. Baildon. One precaution, however, must be borne in mind. There are two classes of bark, the one obtained from trees of older growth, or from the thick part of the trunk; the other, "the bark of the younger trunks and the larger branches of the indigenous shrub gathered in the spring." This description is taken from the "*Pharmacopœia Germanica*," and it is this latter variety that should alone be used. I have permission to quote the formula to which reference has just been made.

Liquor Rhamni Frangulæ.
[Black Alder.]
R. Cort. Rhamni Frang. 60 ozs.

haust by decoction (*more Giles*) and reduce to 320 fluid ounces.
Add—Rectified spirit, 80 ozs.
Product, 20 pints.

Giles's process will be found in the "Year Book, 1873,"
3. Its object is "to effect the exhaustion of a drug with
minimum volume of solvent by submitting it to successive
port with fresh portions of the menstruum."

ceeding in this manner, the reduction is effected by careful
eration in a water-bath to a suitable consistence. Mr.
on uses the same proportions, but prepares his concentrated
ation *in vacuo*, and then adds the rectified spirit. The
ic is exactly three times the strength of the ordinary deco-

is hardly needful to observe that the establishment of a
drastic purgative in our *Materia Medica* would be a boon
p secondary order. Numerous experiments, medically con-
ed, have been initiated, and with satisfactory result.

r. Baidon would deprecate any remarks bordering on the
re of advertisement, and, therefore, confirmatory private
ence, however flattering, must be withdrawn. I hold in my
ession, however, a report on the aperient qualities of Rham-
Frangula, drawn up with minute accuracy, which would
r that, at least, in some instances, the liquor Rhamni has
ed marvellously effective.

he dose of liquor Rhamni Frangulæ is one dessert or table
nful, in a wineglass of water, night and morning as required.
children, in whose case its use is specially indicated, one tea-
nful occasionally in a little water. When the time comes for
w Addendum, I would venture respectfully to suggest that
bark, and the intrinsic value claimed on its behalf, should
ive the attention of the Medical Council. It has made its
without adventitious aid, and already has been accepted as
fe, pleasant, and efficient purgative.



PHARMACEUTICAL NOTES FROM GERMANY.

(FROM OUR OWN CORRESPONDENT.)

BERLIN, June 1, 1874.

own correspondent having a two months' accumulation of
ms finds himself now embarrassed with a wealth of subjects.
Berlin, as the centre of German pharmacy, claims attention
st. This position is universally accorded to Berlin by all the
her "Apotheker Circles," not simply on account of its size,
t also from the influence of its pharmacists in political
rters. It is to Berlin that apothekers all over the empire
k for information of the most recent movements in the course
the present pharmaceutical crisis. The apothekers of Berlin
e exclusively and confidently entrusted with the interests of
e whole profession at this moment.

Allusion has been made several times in these pages to the
sociation of Apotheker Proprietors of Berlin. This Association,
ose origin is lost in the obscurity of remote ages, has of late
ars considerably renewed its youth. The infusion of young

and vigorous blood into its organisation has aided it immensely,
and it has perseveringly carried out its programme to work "all
for one and one for all." On the instigation of Dr. Schacht it has
recently reorganised itself. Its members are divided into special
sections, so that between them all the whole field of pharmacy
is covered. Each section sends delegates to the monthly meet-
ings. The plan will probably work well and the example will
no doubt be followed in other large towns.

At a recent meeting of this Association an interesting lecture
was delivered by Dr. Schacht, the indefatigable president of the
German Apotheker-Verein, on the condition of pharmacy in
Alsace and Lorraine, respecting which he has acquainted him-
self on the spot. The doctor made this tour for the purpose of
making himself familiar with the effect of free trade on
pharmacy, and of its appearance now in the transition stage.

It appears that in Lorraine, with a population of about half-
a-million, there are 62 pharmacies, 24 of which are in Metz.
Of these 62, 47 belong to Frenchmen, and only one proprietor
is the landlord of the house in which he conducts his business!
At the last inspection 23 of these pharmacies (two held by
Germans), were censured by the authorities as "nicht gut."

In Lower Alsace, with 600,000 inhabitants, there are
76 pharmacies. Of these only two are owners of the property.
In Upper Alsace there are 66 pharmacies in a population of
half-a-million.

After the lecture some of Schering's new chemicals were
exhibited, among which were:—Metataric acid, metatartrate of
magnesia, permanganate of zinc, &c. Then a discussion fol-
lowed on articles of diet, and afterwards on Pasteur's new
method of brewing. Different Berlin beers had been experi-
mented on, and the results did not justify the general assertions
of their bad quality. Next came some remarks on the use of
oleine in the manufacture of sticking plaster, and, finally, a
discussion on the adulteration of mustard oil.

The idea of cremation is making considerable progress in
Germany. Much discussion on it, *pro* and *con*, has taken place
in the pharmaceutical circles. For the present, sentiments of
religion and imperfections in the method of burning delay the
execution of a project which seems decidedly desirable.

The apotheker inspectors are threatening a strike. They ask
for certain expenses which are not at present allowed, and they
also claim a more honourable position in the Government
service. At present they are classed with the lowest grade of
Imperial officials. An apotheker, who is also a député, has
already brought the subject before Parliament.

Some valuable new preparations of ergotin, which do not
occasion the pains characteristic of the medicine, have been
produced by Dr. Warnich, and are supplied by Apotheker Alres,
of Berlin.

People who ought to know are not quite agreed even yet as to
the properties of chloral hydrate. Dr. Liebreich has recently
declared, in contradiction to the demands of the German
Pharmacopœia, that it is hardly possible to produce an article
absolutely free from alcohol.

The agitation in favour of the army pharmacists has not been
so successful as its promoters hoped. They asked for a recog-
nised rank in the army, such as is accorded to doctors, but as in
many cases already the latter does much pharmaceutical work,
it was considered that the entire absence of the pharmacists
would not seriously damage the army, therefore the Ministry
declined to consider the complaints.

In German pharmacies the sale of children's food and con-
densed milk has so much increased of late that it would seem as
if, in the large towns at least, this is the only method employed
of feeding infants. In Berlin the condensed milk manufactured
by the original company at Cham is in great favour, and the
Berlin apothekers have officially approved this preparation.
But other brands, respecting which nothing but good can be
said, are also in the market, are cheaper, and find a large
consumption.

The teaching of pharmacy in Germany is at present fully car-
ried out only in the following universities:—Bonn, Munich,
Göttingen, Strasburg, Breslau, Berlin, Jena, and Leipsic. At
the others there are only chemist professors, who manifest but
little interest in pharmacy, if even they refer to it at all.

Chloralum has lately been declared by the Prussian Scientific
Commission an undesirable disinfectant, on the ground that it
is considerably inferior in strength to other disinfecting agents.

Notes from Foreign Sources.

NEW PROCESS FOR THE PRESERVATION OF WOOD.

According to M. Hatzfield, sulphate of copper gives imperfect and variable results, because of its solubility in water; and creosote does not fulfil all the necessary conditions, on account of its rarity and high price. He proposes ferrous acid-tannate. A number of observations he has made seem to show that the action of tannin on vegetable tissues is similar to that which it exercises on animal tissues, causing a sort of tanning; the result is probably the formation of hard and inputrescible albuminous tannates quite analogous to the gelatinous tannates produced in the tanning of skins. In support of this view he cites the clearing of wine by means of white of egg or of isinglass, the preservation of skins by the action of an infusion of oak bark, and the durability of wood rich in tannin, as oak and chestnut. Moreover, M. Hatzfield gives, by means of tannate of iron, a greater degree of hardness to soft woods, so as to be able to apply them to industrial purposes. This compound, which is soluble, is transformed under the influence of the air into an insoluble salt of an intense black colour; it is deposited in the cells of the wood in a solid state, and produces a sort of petrification which augments the durability resulting from the action of tannic acid alone.

IODISED COFFEE.

Dr. CALVO, the elder, recommends an iodised syrup of coffee containing the following:—

Syrup of coffee	..	..	..	..	500 grammes.
Potassium iodide	..	..	..	..	16 "

Dose.—Two or three spoonfuls each day.

Syrup of coffee is excellent for disguising the taste of iodide of potassium, and makes the use of this valuable remedy agreeable to the sick.

THE ADULTERATION OF GUM ARABIC WITH DEXTRENE.

To detect this sophistication M. Mussat recommends the use of the microscope. A drop of glycerine placed on a glass slide is sprinkled with the suspected gum. If iodine water is now added, and the examination made with a low power, it will be seen that the particles of dextrene assume a dirty red colour, whilst those of gum become yellowish. Dextrene generally betrays its presence by the peculiar odour which it gives out. This method is more practicable than that which depends on the use of ferric chloride, as indicated by M. Hager, whose process consists in moistening the suspected gum with a solution of this salt in such a way that the gum neither dissolves nor floats on the surface any more than dextrene does. The fragments of gum attach themselves to the bottom of the vessel, unlike the particles of dextrene.

ON THE USE OF A POTASH SOAP FOR PREPARING TINCTURE OF SOAP AND OPODELDOC.*

The solutions of caustic potash and soda cannot be freed from the lime which they contain by addition of alkaline carbonate, though a solution of soap precipitates lime from such caustic alkali. A soap prepared with alkali containing lime must then hold some lime soap; a strong solution of it appears limpid, but it becomes clouded by separation of lime soap as soon as it is diluted with water.

When the fused potash of commerce is treated with alcohol, pure caustic potash is obtained in solution. At 100° C. this solution forms a limpid mixture with all proportions of olive oil; but this is not a perfect soap, for the solution contains either caustic alkali or oil in excess.

The saturating capacity of the fatty acids for either potash or soda is more feeble in presence of alcohol than in presence of water; this observation holds good only when absolute

alcohol is employed as the solvent. With alcohol of 90°, this capacity varies with the temperature and the volume of alcohol employed; 100 parts of olive oil require in presence of water 18.5 parts of potash; for the same weight of rape oil 16.5 parts of potash suffice. In presence of alcohol 2 or 3 parts less of alkali are sufficient. The alcohol hastens saponification, at the same time that it serves for the previous purification of the alkali. Water decomposes alcohol soaps into free alkali and an acid soap. In tincture of soap, as also in both solid and liquid opodeldoc, there is free alkali and an acid soap; this last is the cause of trouble in preparing, and of the arborization which occur in solid opodeldoc. The soap obtained by an 18.5 per cent. aqueous solution of potash (the soap being dried at 100° C.) is in turn decomposed by alcohol.

The saturating capacities of the fatty acids for potash and soda are easily determined by means of titrated alkaline solutions and a solution of mercuric chloride. The author thinks that this method of assay is applicable even to the detection of adulteration in fat oils.

Applying these observations to the preparation of tincture of soap and of liquid opodeldoc, M. Barchhausen proposes to employ rape oil soap in place of olive oil soap, so as to avoid all deposit, all solidification in winter. To this end he dissolves fused caustic potash in alcohol, leaves it to deposit, takes a quantity of the solution corresponding to 16.5 parts of potash, and heats it with 100 parts of rape oil till perfect solution takes place.

He finishes the saponification by digesting the mixture with water, so as to expel the alcohol and remove all alkaline reaction. When the soap has three times the weight of the oil used, it has the consistence of the soft soap of commerce: on account of its high degree of hydration it is necessary to employ a weight double that of ordinary soap.

IMPROVED RED FIRE.

ORDINARY red Bengal fire is usually a mixture of strontium nitrate, potassium chlorate, and sulphur. This mixture takes fire very easily, especially if damp nitrate has been used in making it, or if flowers of sulphur have been used instead of roll sulphur. M. Böttger recommends the following as a mixture which keeps well and does not take fire spontaneously:—One part of shell-lac and four parts of very dry nitrate of strontium. The best way of making the mixture is to reduce the lac to coarse powder, and then half fuse it with the strontium salt. When cool a mass is obtained which can easily be reduced to very fine powder.

IODISED ALBUMEN.

M. COLLAS (*Bulletin General de Therapeutique*) describes a new process for the administration of iodine. Alcoholic solution has been found too irritant in many cases, and as the iodine acts on the alcohol, forming a hydriodic ether, it follows that the tincture is liable to vary in its composition. Iodide of starch has been recommended, because the association of iodine with some organic substance has been found the most certain method of administration. But this preparation is of variable strength, and has besides an unpleasant taste. Iodised albumen, however (M. Collas considers), obviates all these inconveniences, and can, without much difficulty, be formed into pills.

The albumen is prepared by agitating actively an albuminous solution with iodine in very fine powder or in solution in some appropriate vehicle. The mixture is at first highly coloured, blackish-brown, but this colour gradually disappears in several hours of contact, and the preparation no longer strikes the violet colour with starch. The product is then desiccated under gentle heat in an air bath, when it may be made in pillular mass. The dose is so arranged that each pill shall contain 5 milligrammes of iodine.

The experiments at the Hospital Beaujon by Professor Dolbeau have shown that iodine thus prepared has no bad effects whatever. The pills in the dose of five or six per day acted rapidly in the resolution of an hypertrophy of the thyroid gland. Iodised albumen seems to have the efficacy of cod-liver oil. It has been administered in cases of chronic osteitis, ganglionic engorgement, strumous keratitis, and in two cases of Pott's disease with congestive abscesses. It may be continued for several weeks without stomach trouble or other inconveniences.

* *Journ. de Pharm. d'Anvers*, Mars, 1874, p. 107, M. Barchhausen. From *Journ. de Pharm. et de Chemie*.

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Pharmacy.

POWDERING CAMPHOR.

O. F. EBERT finds the most efficient substance to keep camphor in a finely-divided condition is "the much used and abused glycerine." He gives the following form:—

Tako of Camphor	..	..	..	..	6 ounces.
Alcohol	..	..	..	..	5 fluid drachms.
Glycerine	..	..	..	..	1 fluid drachm.

mix the glycerine with the alcohol, and triturate it with the camphor until reduced to a fine powder.—*Pharmacist.*

THE ADMINISTRATION OF PHOSPHORATED OIL.

REDWOOD (in the *Pharmaceutical Journal*) gives the following formula, which he says is a suitable prescription for an emulsion of the new preparation, phosphorated oil:—

R.	Olei Phosphorati	..	..	..	..	fl. 3j.
	Vitelli Ovi	..	..	..	..	fl. 3ij.
	Liquoris Potassæ	..	..	..	..	fl. 3j.
	Syrupi Tolutani	..	..	..	..	fl. 3vj.
	Aquæ Chloroformi, ad	..	..	..	..	fl. 3vj.

mix together the first two ingredients, then add the syrup and water, and lastly the alkali.

PILL COATING.

In the *Pharmaceutical Journal*, Mr. J. A. Cope, Derby, and Mr. Whitfield, F.C.S., Scarborough, give formulæ for pill coating. The former recommends, first, to sufficiently moisten the pills which should be perfectly round and not too hard) with a thin mucilage. One part mucilage (B. P.) and two parts water is sufficiently dense. They are then to be turned into a gallipot containing some powdered French chalk, and shaken round well for a few seconds, and after lying out for a short time, again shaken round in a clean gallipot in order to remove superfluous chalk and polish them.

Mr. Whitfield's process is similar, but instead of the mucilage he recommends a varnish composed as follows:—

Common Amber Resin	..	..	..	1 to 2 drachms.
Spirit of Turpentine	..	..	..	1 drachm.
Oil of Geranium	..	..	..	20 minims.
Absolute alcohol	..	..	..	To make 1 ounce.

The oil of geranium may be omitted or substituted by other essential oils at discretion. The pills should be made as hard as possible.

THE ANNUAL MEETING OF THE PHARMACEUTICAL SOCIETY.

May 20, 1874.

THE late annual meeting was not indicative of any widespread interest in the immediate projects of the Pharmaceutical Council. Not many more than a hundred members paid the Council the compliment of attending the formal discussion of their report, and if the tones of the various speeches were not in absolute unison, there was at least such a tender regard for the laws of harmony as to prohibit any approach to the interesting discord of past years.

Mr. HILLS was in the chair, and behind him had been placed the portrait of the late Mr. T. N. R. Morson, which had been presented to the Society by Mr. Thomas Morson. The portrait was in every respect admirable. It was a perfect rendering of the well-known face, and in every detail the execution of the work was faultless. The present was accompanied by a short note from the donor, in which he expressed his hope that those friends who had been associated with his beloved father might recognise in the portrait the likeness of an old friend, and that it might recall the remembrances of many pleasing hours. Mr. Hills, in acknowledging the gift, had to speak of a very old friend, and his reference to the deaths of Mr. Morson and Mr. Deane was broken by an overpowering emotion which was only conquered with difficulty.

Mr. SANDFORD expressed the universal opinion as to the excellence of the likeness before the meeting, and suggested

the desirability of obtaining a companion painting, from the same artist, of Mr. Deane.

We understand that for this purpose Mr. Sandford has opened a subscription list, limiting the amounts to one guinea, and that a number of gentlemen have already offered this mark of their respect to Mr. Deane's memory. About 100l. will be required; some 34 guineas have been already subscribed.

After this the more formal business of the meeting commenced. The report, which we published last month, was taken as read.

Mr. ATKINS, of Salisbury, moved its adoption. He thought it might be open to criticism both in regard to its composition and as to some of the subjects to which it alluded; but notwithstanding its defects he regarded it as a terse *résumé* of the position and prospects of the Society. Mr. Atkins next proceeded to unfold the chief desire of his heart, pharmaceutically, which seems to be the abolition of the present preliminary examination, and the substitution for it, compulsorily, of what is now optional, namely, the passing of one of the University examinations, or the examination of the College of Preceptors. Mr. Atkins gave no intimation as to what were the peculiarly melancholy results of the present condition of affairs, but both at this time and later on he urged his views with an earnestness which seemed to indicate some concealed virtue in them.

Mr. JAMESON, of Hastings, seconded the adoption of the report as briefly as possible, and in another moment Mr. PICKERING, of Hull, was pouring forth his plaintive notes. Mr. Pickering speaks in a tone of chronic despair, and his first, chief trouble on this occasion was that pharmaceutical chemists did not receive sufficient recognition from the Government. It was a disgrace to the intelligence of the country, as well as to the Government, that young men who had passed the major examination were not appointed public analysts in preference to everybody else. This line of thought gradually subsided into comments on the Adulteration Act and certain of the prosecutions which have occurred under it. With such an article in his creed as that members of the Pharmaceutical Society ought to be invariably selected by the Government for distinction and favour, it is not wonderful that Mr. Pickering should consider it "much to be regretted that the adulteration of drugs should have been included in the Act" at all.

Mr. VIZER was the next speaker. His opinion was against the new Scholarship scheme, and also opposed to the proposal of electing more annuitants on the Benevolent Fund than the interest of the invested capital would pay for, concluding with a reference to Mr. Deane. Mr. Vizer urged that the *Pharmaceutical Journal* might, perhaps, be sometimes embellished with a portrait of a deceased notability, "not as a commercial transaction, but simply as a mark of respect." Mr. Vizer spoke this with the air of one who should say "if you want originality of conception and austerity of virtue, come this way."

Mr. SLIPPER, of London, next entered on to the milk of sulphur question. He averred that, having endeavoured to introduce the *sulph. precip.*, he had been compelled to abandon the attempt, because his customers had so frequently brought it back to him. In opposition to Mr. Pickering, Mr. Slipper thought there was no particular feeling against pharmacists, provided only they took care to qualify themselves. Some of the young men of the present day seemed as if they wanted the Society to act as a nurse to them, and feed them all the days of their lives. They did not show any of the energy which had enabled such men as Mr. Morson and Mr. Deane to succeed, and it was from these languid young men that much of the complaining came. As to the Benevolent Fund, Mr. Slipper thought it might be made more prosperous if the annual dinner were converted into an engine for the abstraction of funds from otherwise reluctant members.

Mr. MACKAY now made an energetic attempt to rescue the meeting from the mere random talk which had hitherto characterised it by putting forward distinctly the issue in regard to the ten scholarships by means of which Mr. Schacht had proposed that some of the surplus income of the Society should be disposed of. Mr. Mackay doubted, in the first place, whether the Society could afford such an expenditure, for he regarded its present condition as exceptional; secondly, he thought the money, if so spent, would be injudiciously laid out. The proposal was, to give to the successful candidates about 60l., something like half of which would be spent in fees. The balance, he thought, would be a poor temptation for a lad coming from a remote dis-

strict of Wales or Scotland, for example. For his part, he thought the money might be much better spent if the Council would make liberal money grants to provincial associations whenever such assistance was asked, provided that evidence was given that the grants would be properly applied.

Mr. HUMPAGE expressed his hearty agreement with Mr. Mackay's views, and remarked that his impression was that a great deal more had been done for the young men than they had done for themselves. He wanted to see the standard of the examinations well kept up, and rather raised than otherwise.

Mr. WIGGIN, of Ipswich, as one of the analytical ogres alluded to by Mr. Pickering, made a few remarks somewhat in defence of the Adulteration Act. He thought that as one of the objects of the Society had been to improve the quality of the drugs sold to the public, it was the Society's duty to assist the Government to prevent the sale of such articles as milk of sulphur containing 50 per cent. of sulphate of lime.

Mr. WATTS, of London, thought there might be periodical members of the meetings of the Society to discuss those questions affecting the trade.

There followed a few more general comments from Mr. STACEY, of London, and from Mr. GUYER, of Torquay, both of them speaking unfavourably of the proposed scholarships.

Then their author, Mr. SCHACHT, adopting an unwonted tone of cynicism, defended his proposal. He said that every criticism he had heard or read up to that time had been adverse to the proposal. If that were the general opinion he would be the last man to press the idea. Only let it be understood that nothing was wanted, and he would be delighted to sit still and save himself further thought on the subject. But there was nothing exceptional about the proposal, and, in his opinion, it was calculated to affect pharmaceutical education all over the kingdom very favourably. Though but one would win each scholarship, a great many would contend, and a great many more would, to some extent, prepare themselves. As in the Derby, though perhaps not more than thirty horses ran, yet sometimes, he believed, as many as 150 entries were made. Then it was said they could not afford them; but for the last three years they had funded about 1,500*l.* a year, and he saw no reason to doubt that the income would be maintained, and that at least something like 700*l.* or 800*l.* a year might be depended upon. This difficulty about means had been pretty well ventilated in the Council; and he thought it was pretty much agreed that there was no reason to dismiss the scheme on that account.

Mr. ATKINS asked Mr. Schacht to explain his scheme as shortly as he could, in order that the meeting might understand what was proposed.

In reply, Mr. SCHACHT said the suggestion was that they should grant a number of scholarships consisting of free access to the teaching in that institution, and a certain money grant to enable the students to avail themselves of that teaching. The fees for the instruction would be about 30*l.*, and if that were supplemented by a money grant of about an equal amount it would be a handsome prize to offer. It would not pay for every expense to which the student would be put, but it would largely assist him.

Mr. STODDART supported the proposal by a reference to the pharmacy classes which had been established at Bristol, where they had found the offer of prizes greatly stimulated the ardour of the young men. Turning to the milk of sulphur question, Mr. Stoddart said that as even fleas had smaller fleas to bite them, so it appeared this milk of sulphur itself was sometimes adulterated, for he had had four samples under his notice which would not burn at all, there being no less than ninety per cent. of impurities. He had always sold precipitated sulphur, and had found no complaints.

Mr. ROBBINS, as the author of the suggestion to elect two annuitants on the Benevolent Fund this year instead of one, made an able speech in favour of that proposal. His object was that two annuitants should be elected annually until the number reached twenty. The present number was fourteen. He said that other societies elected more annuitants than their invested funds would pay, trusting not entirely to their revenue, but also to the average dying off of the pensioners. By electing only two a year the number of twenty could scarcely be reached according to calculated averages, and by similar reckoning it would be found that even if the subscriptions to the benevolent fund should cease altogether

when there were 20 annuitants, the number would be reduced to its present figure in five or six years, and the loss to the funded capital would only reach about 700*l.* Mr. Robbins also argued that an annuity was the most valuable form in which the benevolence of the Society could be dispensed, and he showed from past experience that it was only necessary to do good with the money to ensure any required increase of income.

At this point Mr. CARTEIGHE suggested that these subjects of discussion might best be left to the Council to settle. The idea was welcome to the members generally, for none of the speakers had succeeded in arousing sufficient excitement to deaden the sentiments of weariness and hunger which a long sitting induces. Therefore, after a few general remarks on the discussion from the PRESIDENT, the adoption of the report was unanimously carried.

The few earnest men who would have raised a debate after this were resolutely resisted. Mr. URWICK tried to keep the "Scholarships" discussion going; Mr. WATTS endeavoured to secure the appointment of meetings for trade discussions; and Mr. ATKINS more persistently ventilated his ideas on the preliminary examination. He proposed a motion which he afterwards withdrew, expressing himself satisfied at having introduced the subject. The meeting was over soon after half-past two, an agreeable contrast to recent experiences.

MEMBERS OF PARLIAMENT STUDYING PHARMACY.

THE morning after the conversazione a little knot of well-known pharmacists was found in one of the upper rooms of the Houses of Parliament, awaiting an examination by the Select Committee of the House of Commons appointed to investigate the working of the Adulteration Act. As the occasion was in some sense historical, it may be worthy of more detailed description than can be had from a reporter's notes.

The work accomplished in those select committees is the backbone and framework of our legislative edifice. One might as well hope to generate steam power from fireworks as to obtain permanent advantages from the rhetorical displays of a brilliant debate. But the telling off of some dozen or twenty clear-headed gentlemen of various shades of opinion, supplied with the best facilities for securing the most perfect information, is an arrangement whereby Acts of Parliament are carved into something like ship-shape, rough hewn though some of them come out even after the utmost care. The select committee which is still pursuing its inquiry into the working of the Adulteration Act has commanded more than ordinary general attention, while to the various trades interested its proceedings have been of peculiar interest.

While we are waiting for the druggists to be called, we may take a few notes of the gentlemen facing us.

The chairman of the committee is Mr. Clare Sewell Read, member for South Norfolk, and Secretary of the Local Government Board. Mr. Read is one of the most useful members of the Disraeli administration, and is perhaps the first example of a tenant farmer taking a seat in the Government. He presides over this committee with great nobility, and it is easy to perceive from his remarks that he can well appreciate the traders' difficulties as well as the public's requirements. Among the most active members of the committee may also be mentioned Mr. Muntz, the member for Birmingham, who aims to show that the Act is not so bad as it has been represented. Sir Henry Peek, the baroneted grocer, is apparently not in favour of the Act. At any rate his questions are put with the view of eliciting its bad points.

Mr. Colman, of Norwich, is another member of the committee whose interests are considerably crossed by the Act. Mr. Mundella, of Sheffield, has been pressed into the opposition to

Act by the importunity of his constituents, but he is an independent man, and will form his own opinion of its injustice. Brady is the representative of drugs on this committee, and before our day is to him one of the most important of the things. Viscount Barrington is the swell of the party, and presents a faultless costume and an elaborately arranged mustache. My Lord appears to have heard of shopkeepers, but has seldom had the opportunity of seeing a specimen of the class. Mr. Welby, the member for South Lincolnshire, takes an intelligent part in the examination, and does not appear to have any other object but the extraction of information. About mid-day Mr. Edward Horner was placed before the committee, and made a very useful contribution to the evidence. His thorough acquaintance with the markets and the importation of drugs was in singular contrast to his utter ignorance if any member of the committee attempted to lead him beyond his special path. Dr. Brady tried to get up a little conversation on the British Pharmacopœia, but Mr. Horner knew nothing about preparations. Some one else referred to chemicals, but again the witness refused; and to Sir Henry Peck's questions about the suitability of the laboratory at Somerset House as a place of referees he said he had never heard of it. Mr. Muntz made a very unfair use of this witness. Bringing out his theories that medicines are specially adulterated for the country, and that prescriptions can only be made up properly in London, he secured a ready concurrence from Mr. Horner simply because that gentleman did not profess to be acquainted with such matters.

Mr. Hodgkinson came next, and added very little to the information which Mr. Horner had given. He gave less encouragement to Mr. Muntz's superstitions than did Mr. Horner, but his somewhat doubtful contradictions suggested the impression that there was "some truth in them." Dr. Brady having remarked that he heard many complaints of the drugs supplied in Ireland, Mr. Hodgkinson explained this by casting a slur on the "druggists" of that country, a slur which, as far as we know, has never been suggested by their opponents, and which we believe to be quite undeserved.

Mr. Carteighe came next, and, having been once started, poured forth such a rush of arguments against the Act as left but little necessity for questions to be put, and which at length fairly broke down the official reporter. He urged forcibly that a druggist could not be bound by a hard and fast line demanding absolute purity. Also, by the happy instance of quinine, he showed how constantly chemists must supply, not exactly what their customers ask for, but what they know is wanted, it being in this instance, strictly speaking, the disulphate of quinine. In the course of his address, Mr. Carteighe had made a reference to the serious injury which a chemist suffers in reputation if he is merely charged with adulteration. A little later, and with a touch of humour, Sir Henry Peck asked how such a charge should affect a chemist's character more than it does a grocer's? Mr. Carteighe was not very happy in his reply; but when Mr. Sandford took his seat as a witness, he managed to introduce the subject again, and explained that it was from the reason that the consumer could himself fairly judge of the quality of his tea or sugar; but that he could not well do so in the case of drugs. Therefore he must repose more confidence in his chemist than in his grocer. Before leaving, Mr. Carteighe was examined (we use the word for phony's sake) by a member of the Committee, Mr. Sandford, whose acquaintance with the subject seemed about equal to his gentlemanly manners. He demanded if witness knew of a single case of hardship. The citrate of magnesia case was alluded to. Did witness know of that of his own knowledge? No answer to which was that he knew of it only as reported. On being asked to state what he did know of it, Mr. Carteighe proceeded, but was almost instantly interrupted by Mr. Sand-

ford, who intimated that the witness knew nothing of what he was talking about. The Chairman and Sir Henry Peck rebuked their colleague's hastiness in terms which were not less severe because they were spoken lightly, and the story was detailed. But Mr. Read summed up his impression of the evidence that Mr. Carteighe had offered by the remark that it appeared as if chemists were rather frightened than hurt.

Mr. Williams came next, and gave evidence especially in reference to chemicals. He very strongly urged that conventional names could not be avoided; that the public could not be readily educated into the use of scientific terms; that if they did try to use them they were most likely to make a mistake. Both he and Mr. Carteighe warmly defended the country chemists, and maintained that prescriptions were dispensed as accurately in York or Bristol as in London, and in towns of 5,000 inhabitants as well as elsewhere.

Mr. Sandford was examined last, and showed a very thorough acquaintance with the Act. The most striking feature of his examination was the ability with which he urged that drugs should be exempt from the Act altogether. He said the Pharmacy Act provided expressly for the punishment of the adulteration of drugs, and he would leave the execution of those provisions entirely in the hands of the Pharmaceutical Society. Mr. Sandford also narrated how that both Lord Salisbury and Lord Granville, in passing that Act, had assented to the principle that a guilty knowledge should be essential to conviction; but that the Court of Queen's Bench had interpreted the clauses of the Act in a different sense. This testimony concluded the evidence that the Committee took in reference to the adulteration of drugs.

THE ADULTERATION ACT.

Examination of Chemists and Druggists before the Select Committee of the House of Commons.

ON May 21 a very important body of evidence in regard to drugs and chemicals was given before the Select Committee of the House of Commons, which has been investigating the working of the Adulteration Act. The members of the Committee present were Mr. Clare S. Read (chairman), Mr. Backhouse, Viscount Barrington, Dr. Brady, Mr. Colman, Mr. Carpenter Garnier, Mr. Heygate, Mr. Mundella, Mr. Muntz, Sir Henry Peck, Mr. Sandford, and Mr. Welby.

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Before the evidence in respect to drugs was called for, some other witnesses were examined who gave important contributions to the general acquaintance with the effect of the Act. On our entrance Mr. R. M. Holborn, of the firm of R. R. Holborn & Sons, 39 Mincing Lane, was being examined by Sir Henry Peck. This gentleman had been in the tea trade for the past thirty-four years, and had continually travelled over all parts of the United Kingdom in connection with it. He described a case which his firm had defended on behalf of the retail dealer. They had engaged Mr. Douglas Straight as counsel, Professor Dugald Campbell and Professor Harkness as analysts, and certain experts in the trade who were acquainted with China. After three hearings of the case, in the course of which it completely broke down, the prosecution (the Vestry of Lambeth) asked leave to withdraw. The defendant's counsel asked for costs, but the magistrates declined to give more than six guineas, alleging that they did not wish to deter the vestry from carrying out the Act. The net cost of the defence, after deducting the six guineas allowed, amounted to 68*l.* 13*s.* 8*d.*, and Mr. Holborn said his firm considered the charges to have been very moderate indeed. Mr. Holborn thought there should be some alteration in the 1st and 2nd Clauses of the Act, which make a man appear guilty though he may be perfectly innocent; and he also suggested that the purchaser of a sample intended for analysis should be required to put the official seal on a second packet if the vendor should demand this. He thought that analysts

would be less reckless if they were always in danger of being faced with an independent authority.

Two or three gentlemen representing the milk trade were next examined. One mentioned that he had submitted a test sample to one of the London analysts, which had been prepared by mixing half a pint of water with a pint and a half of milk. The certificate stated that the sample "might or might not be adulterated." The same gentleman told the committee that in London there were a number of small dairymen in the trade who have no proper accommodation for storing milk, who get it from the stations at night, keep it in a room which serves as bedroom and living-room also, till the next morning, when it is supplied to consumers. He suggested that there should be a system of licenses at a nominal annual payment, to be granted only to such people as could show a fitting means of keeping the milk.

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After an interval the chairman called Mr. EDWARD HORNER, of the firm of Horner & Sons, Bucklersbury. This gentleman gave evidence more especially in reference to drugs as imported. He said it was almost impossible to get any drug, as imported, absolutely pure according to the Pharmacopœia. He took for instance scammony, and said that of course perfectly pure scammony should be 100 per cent. good, but such an article was unknown—80 per cent. would be extraordinarily good. Generally speaking (though scammony itself would be an exception), drugs were not intentionally adulterated before being sent to this market, but the impurities occurred through want of care in the collection. Referring next to opium, Mr. Horner said there was a sale of opium that day in the city. The price of the best article was 32s. per lb., but probably the bulk of that offered would not fetch more than 7s. 6d. It would be bought by the morphia makers, who would, of course, only give a price for the opium in accordance with its richness in morphia. Being asked by the chairman if he thought it would be desirable to prohibit the importation of inferior qualities of drugs, Mr. Horner said certainly not; inasmuch, as to exclude such articles would be to send away a large part of the trade of London to Hamburgh or other continental markets. Musk, Mr. Horner added, came to this country much adulterated. Gum Arabic was often mixed with other gums of an inferior quality. Barks were imported in all sorts of qualities, and were bought by the quinine makers according to the proportion of quinine they contained. The prohibition of the importation of barks of quality inferior to calisaya, which might be regarded as the standard, would simply have the effect of cutting off the supply of quinine to the country, because there was not sufficient calisaya bark grown to supply the necessary quantity of the alkaloid. Essential oils, however, were perhaps more adulterated than any other drugs, and more so since the duties had been abolished, as formerly importers did not care to pay the same rate of duty on an inferior article; consequently the duties checked the adulteration. Mr. Horner said that the Act did not affect the wholesale trade, but he believed there had been cases of hardship on the retail dealers. As a rule, however, the latter did not receive drugs adulterated as imported, because, as most of them were anxious to get the very best articles the wholesale houses separated the good from the bad, and thus served as a protection to the retail dealer. Mr. Horner thought it would be well if a Board of Referees were appointed to check any doubtful analyses, and he considered they should all be chemists. The foregoing evidence was all given in reply to questions put by the chairman.

Mr. Welby asked if the quinine extracted from the inferior barks was equal in quality to that from the best bark, to which it was replied that it was. Mr. Horner also said he did not think there was much adulteration of drugs after importation.

In reply to Sir Henry Peek, Mr. Horner was not aware of the existence of a laboratory at Somerset House. He knew that when sweet almonds were dear the expressed oil of bitter almonds was mixed with that of the sweet, and *vice versa*. As to opium, the consumption in this country was nothing equal in proportion to population, as in the United States.

To Mr. Carpenter Garnier, Mr. Horner explained that nearly all the adulteration of scammony occurred before it came to England; the commonest kind, called "skilip," contained sometimes 60 or 70 per cent. of flour. He thought it would be a great grievance if a druggist were punished for an adulteration which took place in Syria.

Dr. Brady referred to the British Pharmacopœia, and asked if

the preparations of opium were all of the same strength, but Mr. Horner said he knew nothing of that branch of the business. The inferior gums eliminated by the wholesale druggists were used to make blacking, ink, and other purposes.

Mr. Muntz put some questions in reference to a prescription made up in different parts of the country, and Mr. Horner coincided in the hon. member's theory that it was a common thing that a prescription so made up had various effects. In reply to other questions, he was not aware of the existence of some large "manufactories of medicines," where different degrees of purity were supplied for London, for the provinces, and for export.

Sir Henry Peek asked if it was not a fact that the Government themselves used the cheapest and commonest gum for postage stamps and envelopes, so bad, he added, that it had been asserted that some people had taken a disease of the tongue through licking these stamps and envelopes. Mr. Horner was not aware of the fact.

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Mr. WM. HODGKINSON, of the firm of Hodgkinson, Stead & Treacher, of Aldersgate Street, examined by the Chairman, generally corroborated the evidence of Mr. Horner. He would certainly not prohibit the importation of inferior drugs, because by driving them away to foreign markets we should not have the opportunity of selecting the best samples, which at present are, as a rule, retained in the country. At the London drug sales the foreign buyers are more numerous than those representing English firms.

Mr. Muntz put a somewhat similar series of questions as he had put to Mr. Horner. Mr. Hodgkinson thought prescriptions prepared in other parts of the country could be relied on now more than formerly. Mr. Muntz again referred to the "manufactories of medicines," where a scale of net prices charged for London, 25 per cent. allowed for the provinces, and 50 per cent. for export; Mr. Hodgkinson knew nothing of these, and should certainly say, unless Mr. Muntz knew to the contrary that no such establishments existed. Mr. Muntz said he was not referring to places in London.

Viscount Barrington asked if chloroform was much adulterated, and whether some was not sold in this country containing but little chloroform and a good deal of some other anæsthetic. Mr. Hodgkinson thought not, and thought he should know of it if such were the case.

Dr. Brady asked if druggists sometimes reduced the strength of pharmacopœial preparations, and also if they sometimes substituted one medicine for another? Mr. Hodgkinson said he had heard of such practices, but he considered that druggists were too respectable as a class to do such things.

To Mr. Garnier the witness stated that a good deal of the cheap scammony was used up in patent pills. He thought that was quite fair, but it would not be right for a chemist to sell a dispensance any but the purest scammony he could obtain.

Mr. Welby asked if a country druggist in a town of from 5,000 to 10,000 inhabitants could supply as good drugs as a London chemist if he chose? Mr. Hodgkinson said his only difficulty would be that he probably might not have his drugs so fresh, but if he had the courage to throw away drugs as soon as they deteriorated there was no reason in the world.

Mr. Muntz asked whether James's Powder was not often much deteriorated in value in consequence of other substances being mixed with it; but on this subject both questioner and respondent seemed so lazy that the interrogation was of no value.

Mr. Welby asked if it was not the fact that country drugs were still inferior to those obtained in London? Mr. Hodgkinson could not admit that. It depended entirely on the character of the man who supplied them.

Dr. Brady remarked that he had heard many complaints as to the drugs supplied in Ireland. Mr. Hodgkinson thought that might be due to the fact that there were two classes of druggists there. The apothecaries he thought were generally reliable; but it was questionable as far as the druggists were concerned, who perhaps bought lower qualities to supply their class of trade.

Sir Henry Peek assumed from this witness's evidence that a druggist might be prosecuted not so much for adulteration of drugs as for want of judgment in not throwing away deteriorated drugs.

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Mr. MICHAEL CARTEIGHE, of the firm of Dinneford & Co., Bond Street, gave evidence to the effect that certain

nicals and pharmaceutical preparations would seriously and imperceptibly deteriorate by age. He instanced especially sic acid and chlorinated lime, which from their volatile properties must necessarily deteriorate from day to day. Essence of lemon, too, might, under certain circumstances, be partially changed into oil of turpentine. Other essential oils in like manner might become oxidised almost without the knowledge of the average person. He thought therefore a druggist ought not to be subject to hard and fast lines such as the Act laid down. The Act appeared to assume there was such a thing as absolute purity, and should maintain the converse. Absolutely pure water, for example, practically was not to be obtained; it could not be retained in such a state for any length of time. Then, again, there were many conventional names which did not exactly represent the substances they covered. Effervescent citrate of magnesia, Effritz powders, Carlsbad and Vichy Salts, &c., were titles which fairly distinguished the articles they were intended to denote, but which were not perfectly accurate. Druggists, as to a certain extent, the interpreters between scientific and conventional language. For example, if a customer would ask him for an ounce of quinine, he would not get quinine. To speak exactly, he would get the disulphate of quinine; that is to say, he would get quinine and something else. By supplying that he considered he was doing the customer exactly what was required, and committing no fraud. Mr. Carteighe went on to speak of scammony as an example of a drug of which the "Pharmacopœia" had fixed the standard too high. The "Pharmacopœia" states that it should contain from 80 to 90 per cent. of pure scammony, and therefore a sample containing 79 per cent. would be condemned by the Act. But he (Mr. Carteighe) would consider such scammony very fair specimen. In reply to a question by the Chairman, Mr. Carteighe thought a Board of Referees would be very desirable, and his opinion was that it should consist of (a) a professional chemist acquainted with pharmacy, (b) a medical man, and (c) some one acquainted with the details of pharmacy. Mr. Carteighe thought that a chemist suffered more in reputation by being charged with adulteration than an ordinary tradesman, because, on some technical ground which the magistrate might not understand, the chemist might be convicted, and the public might be in fear henceforth of being poisoned by that chemist. He urged that the Pharmaceutical Society, which had done so much for the prevention of adulteration, might be entrusted with further powers, to the extent of striking a name off the register after several offences in this respect.

Mr. Welby did not quite understand the chemical processes whereby essence of lemon could be changed into oil of turpentine, which were, in a sense, explained to him. The disulphate of quinine was also a stumbling block to this gentleman, but it was also elucidated.

Mr. Henry Peek asked if the Laboratory of Somerset House might not be made to answer as a Board of Referees. Mr. Carteighe replied that if some one with a technical knowledge of pharmacy were connected with it he thought it might. Sir Henry Peek also enquired how it was that a chemist's character was of more value than a grocer's? To which the witness answered that there was no register of grocers as of chemists, therefore a chemist could not recommence business under another name in a different town.

Mr. Sandford then interrogated the witness very severely as to the alleged harsh operation of the Act. Mr. Carteighe denied the citrate of magnesia case, but on his not being able to remember whether the order was given for "citrate of magnesia" or "effervescent citrate of magnesia," Mr. Sandford said it was evident the witness knew nothing about it. The Chairman remarked that this was not exactly a court of justice, and Sir Henry Peek suggested that it would be better to hear the witness did know. Mr. Carteighe then detailed it, and added that if such an order had come to him he would have supplied the article that was generally known as effervescent citrate of magnesia. The complaint was that the witness was so likely to be misinterpreted in these technical details.

In reply to Mr. Garnier, Mr. Carteighe said the Pharmaceutical Society, in its corporate capacity, had not discussed the Act, but it should seem they were antagonistic to its principles, which was not the case. And to Mr. Colman he said he thought there ought not to be a guilty knowledge proved on the part of the vendor before conviction.

By Mr. Muntz: The employment of the term "scammony mixture" would be likely to frighten the public. Chemists are

much more educated than they were. It would certainly be desirable that assistant chemists, as well as proprietors, should pass an examination before dispensing; nevertheless, accidents would occur to the most skilled persons. It was true that medical men sometimes ordered "sulphate of quinine," meaning the "disulphate," but that was probably because chemical titles had changed within the past dozen years. Witness believed that prescriptions were made up as accurately in provincial towns as in London. Mainly through the exertions of the Pharmaceutical Society, there were men all over the country quite competent to dispense prescriptions. Essence of lemon might change into oil of turpentine, but the latter would not change into essence of lemon. It was certainly probable that a great part of the annoyance of the Act had been occasioned by the officiousness of newly-appointed analysts.

The Chairman remarked that he gathered from this witness's evidence that chemists had been rather frightened than hurt.

Mr. JOHN WILLIAMS, manufacturing chemist, Cross Street, Hatton Garden, next gave evidence. He agreed generally with what Mr. Carteighe had said. The terms *bi* and *di*, though perfectly understood by scientific chemists, were not so simple to the public; and when the latter used them they generally made a mistake. He thought the Act should so define adulteration as to exclude what he would call quibbling prosecutions. Conventional names must be permitted, because nothing would make the public learn to use the strictly accurate definitions.

Replying to Mr. Muntz, Mr. Williams said that true granular citrate of magnesia was a chemical curiosity: it was not kept by one chemist out of 500; and the effect of the conviction of the man who had been prosecuted for selling the so-called article was that he had had to leave his business.

In reply to Dr. Brady, Mr. Williams stated that the Pharmaceutical Society had done so much to educate the druggists that they were much better qualified now than 30 years ago. Also, that there were now many more houses who devoted great care to the preparation of chemicals than 30 years back.

Mr. Carpenter Garnier asked if the witness considered there should be power of appeal under the Act. The reply was that there ought to be some body with the requisite technical knowledge which should decide whether a prosecution was frivolous or not.

To Sir Henry Peek Mr. Williams said that while he did not think the Somerset House laboratory, as at present constituted, would answer as a Board of Referees, he thought some such central bodies might be adapted for the purpose. But it was essential they should comprise some one having a practical knowledge of pharmacy.

Mr. Welby enquired what a physician should do who really wanted to prescribe the "sulphate of quinine," not the "disulphate." Mr. Williams replied that such a physician would know quite well that it would be necessary for him to write "neutral sulphate."

Mr. Muntz pointed out that the Adulteration Act, by including the former Act, gave the right of appeal.

Dr. Brady asked Mr. Williams if such a preparation as pure "effervescent citrate of magnesia" was possible. Mr. Williams said it was not. If there were sufficient magnesia to make the true chemical citrate of magnesia it would not effervesce. It had been found that people preferred the article without the bitter flavour of magnesia.

Mr. GEORGE WEBB SANDFORD, of Piccadilly, saw more reason to complain of the administration of the Act than of the Act itself: he differed from the interpretation which had been put upon it by magistrates. According to his reading, an actual knowledge of the adulteration was, and ought to be, necessary to constitute an offence, but it had been held by high legal authorities that, as the vendor was supposed to know the quality of the articles in which he dealt, the knowledge of an adulteration might be *implied*. In regard to the citrate of magnesia case, there had been no fraud at all on the part of the chemist. The article he sold as citrate of magnesia was similar to that sold in every chemist's shop in London. The witness would maintain that a chemist's reputation was commercially of more value than was that of a grocer, for this reason, that the consumer himself could fairly judge of the quality of his tea or sugar, but with regard to medicines, he must trust entirely to the chemist who prepared them.

Referring to scammony, the committee had been told that 80 or 83 per cent. of resin was a very high standard; but even scammony yielding that percentage must contain 17 or 20 per cent. of some foreign matter, and a seller of it might therefore be prosecuted under the Adulteration Act.

In reply to Mr. Muntz, Mr. Sandford said he would by no means protect a man who should sell scammony (for example) containing only 40 per cent. of real scammony; but he would give that man the opportunity of proving that he had used every means in his power to obtain the best drugs, and had himself been deceived. Certainly, it was the duty of the seller to know his trade.

Mr. Coleman and Sir Henry Peek inquired further respecting the citrate of magnesia case, and the latter asked whether it was not conceivable that an analyst would sometimes stretch the Act absurdly in order to show himself a very clever fellow? Mr. Sandford could imagine such a case.

To Mr. Welby, the witness explained that pharmacutists were already liable to be prosecuted for adulteration under the Pharmacy Act; that if a case were brought before the Council the latter had no choice but to take proceedings; and he thought they were the proper authorities, and further that it was only fair that chemists, being liable under one Act, should be exempt from the other.

To the Chairman, Mr. Sandford narrated interviews he had had with Lords Salisbury and Granville, who had agreed that a guilty knowledge ought to be proved against the vendor. The former had introduced words into the Bill to ensure this. Notwithstanding these words the Courts had held that such guilty knowledge as was required by the Act might be implied.

Mr. Muntz asked a few questions to show that the penalty of adulteration under the old Act, or the Pharmacy Act, would not exceed 5*l*. Under the new Act it might be 50*l*. The loss of character would be the same if the defendant were prosecuted under one Act or the other.

AMERICAN PHARMACY.

THE annual volume which reports the proceedings of the American Pharmaceutical Association always contains a vast fund of matter, both original and selected, nearly the whole of which is of universal pharmaceutical interest. The most recent issue of this volume has lately reached us. We have no intention of attempting to condense the matter of some seven hundred pages into the little space at our disposal, but from the abundance of wealth spread before us we shall have only the difficulty of selection in compiling a few useful paragraphs.

The meeting was held at Richmond last September, under the presidency of Albert E. Ebert, of Chicago (the Editor of the *Pharmacist*).

The very first piece of business was the reception of the congratulatory telegram from Bradford; and at this point we conceive it to be a matter of honour to vindicate the officers of the American Association from an aspersion which we ourselves cast on them in reporting the proceedings at Bradford. It was stated there that the American telegram ran thus:—"We return your hearty and fraternal greetings." We ventured to question if that phrase exactly conveyed the meaning of our *confrères*, and now we read it in their report in much more perfect English:—"We return *our* hearty and fraternal greeting." The Association was welcomed by the Mayor of Richmond in a genial and racy speech. He expressed his sense of the honour which was done to Richmond by so influential an Association holding its 21st birthday in that city; and in truly eloquent words he especially thanked those who had

Raised the historic cry, "On to Richmond!" He added, I trust that you have found your advance somewhat less arduous and costly, and less fatal than a similar experiment made some short time back. I may also, sir, be indulged in expressing a hope that this fraternal union of intelligent gentlemen from all quarters of our common country assembling in this capital of the late Confederacy in the interests of the healing art may fortunately have some effect as a fraternal contribution to the healing of those sad civil wounds so long and so improperly kept open, which the selfishness and the greed and ambition of men has thus irritated, that profit and advantage might be reaped from the tree of public calamity and strife. I trust,

gentlemen, that you may in some sort bring healing on your wings to this great people.

He congratulated the Association especially in that one of its chief aims consisted in

Raising the great banner of business morality in this country, in an age and in a country whose besetting public vice is unconscientiousness.

The mayor gallantly concluded with a few remarks complimentary to the ladies present.

I do not care what the association of the ladies may be (he said); they are a drag in no market. The most miserable bachelor, who, in his solitary den, declaims against all women as a dose, must in this presence admit that at least they are sugar-coated; and if some miserable plodding wretch of a man should dare to denounce them as precipitate, here is an audience that knows the value of precipitates, I am sure. The fact is, Mr. President, that in this dull prosaic life, these are our elixir, and you do not dare to call them unofficial.

* *

In the President's address we find a paragraph on the sale of homœopathic medicines which ably combats the scruples which affect certain British pharmacists in this connection. He said:—

We call your attention to a paper which will be read at this meeting, relating to the dispensing and sale of homœopathic remedies by pharmacists. We hope the subject will receive due consideration, as it would seem that we, as dispensers of medicines, should not stop to ask the question, to what system of practice does the remedy belong? but to faithfully prepare the same as requested, and let time, which solves all problems, decide its utility. I think there would be no objection from the medical profession to our dealing in this class of remedies, as certainly it is not so reprehensible a feature as the sale of proprietary nostrums, and the homœopathic practitioners would no doubt support us in the undertaking, as they would have the advantage of much more skill and experience in the preparation of remedies than they now obtain. It is the custom throughout Germany, where this system of practice had its origin, to include the sale and dispensing of these remedies in the business of the authorised apothecary. The universal character thus acquired in the business of a dispensing pharmacist, as well as the legitimate pecuniary gain involved, should not be overlooked by us.

* *

Certain proposals in reference to the meeting in 1876, the centennial of the United States, and the great Philadelphia Exhibition year, were submitted. It is desired that the International Pharmaceutical Congress shall be held in Philadelphia that year. It is suggested that certain members should decorate themselves with a rosette or other small device to indicate that they may be approached and made useful to strangers; and another recommendation is very thoughtful and creditable. It is:—

That all pharmacists in our country and the Dominion of Canada who would like to meet and receive these distinguished strangers, especially those of us who are foreigners, or of foreign origin, send their names and address, with their nationality, to the committee of this association that is to be appointed, whether he be rich or poor, proprietor or clerk, and that these names be printed and presented to each foreign pharmacist, that wherever they may travel, in the States or in Canada, they may find friends who are happy to receive them and show them American life as we live it.

* *

The expulsion of a member was an event somewhat of a sensational character. The victim was a Mr. C. W. Grassly, of Chicago. That gentleman had made a report on Sedlitz Powders the previous year, which was quoted in *THE CHEMIST AND DRUGGIST* for May 1873. The editor of the proceedings attached to the paper the following foot-note:—

The author does not state how he prevented the contamination of the precipitated sulphate of baryta with bitartrate of potassa, which must be precipitated, after adding acetic and muriatic acids, except by heating the resulting liquid.—EDITOR.

This moderate remark so incensed Mr. Grassly that six months after the publication of the volume he was still warm enough on the subject to address a letter to the Association, in which he remarked that he

Was not only surprised, but horrified and disgusted, to find that the editor had assumed responsibilities which to his knowledge were not delegated to him, by virtue of his office, or by the demands of the occasion

considered the papers open for criticism and discussion only at the deliberation, and in this case he regarded editor's criticism as fundamentally erroneous, ill-timed, uncalled for, unwarranted, misconceived,astic, and consequently malicious. No accent of disapproval would emanated from him had the criticism been correct, well-timed, justified, under the circumstances. But when one ascends to the position of a critic in such important matters, it is an indispensable qualification to be at least superficially posted on the question, and in qualification your editor is degradingly deficient.

To concluded by tendering his resignation. The meeting, however, declined to accept the resignation, and by a majority 18 to 2 resolved to declare Mr. Grassly expelled.

* *

A discussion of a more interesting character occurred in reference to an invitation to an excursion provided by local chemists. This difficulty is the besetting one both of the British and American Associations. Dr. Squibb said of course they must accept the Richmond invitation because had been planned before the meeting, but he thought they ought carry some resolution which should check the hospitality future years. Dr. Pile remarked that such resolutions had been passed in former years with no effect. To which Dr. Squibb responded by saying that

John Wesley once said, "Mrs. Wesley, why do you tell that child over and over again twenty times?" "John Wesley, because nineteen times is not enough."

After a considerable discussion Professor Markoe interposed this neat little speech:—

"I think all discussion on this subject is time wasted. Wherever we go people will in some way or other entertain us; and make all the objection you have a mind to, the sense of the Association has been in favour of accepting whatever hospitality has been shown; if that is an evil, it can be met at the time. I move the discussion on this subject be dropped."

It was accordingly was.

* *

The Association will meet this year at Louisville, under the presidency of Mr. J. F. Hancock, of Baltimore. We shall serve for another article a brief review of the papers read at the Richmond meeting and the discussions thereupon.

THE NEW YORK COLLEGE OF PHARMACY.

THIS institution, although eight years junior to its sister at Philadelphia, has still a long and honourable history. Its 14th "annual commencement" was held on March 31, and from report of the proceedings which has been sent to us we find that during the past session it had instructed no less than 184 students of pharmacy, and this, it must be remembered, in a country where it is only one out of many like institutions, and where the law no more prescribes a curriculum than it does here. These "Colleges of Pharmacy," scattered throughout the United States, might supply a hint to the Pharmaceutical Society as to how to utilise the money at its command, and which it wants to spend in educational advancement.

The "valedictory address" at the "annual commencement" (which expression, as far as we can comprehend, seems to involve a contradiction of terms) was delivered by Professor W. Bedford. Some of his remarks were particularly happy, and English students may profit by the following extract from the concluding words of the address:—

"The best pharmacist is the closest student; and those who know what Proctor, Squibb, Maisch, and others have done to advance the science of pharmacy, know that their work was only accomplished because it was the result of close study and observation.

"Much of the advance of chemistry has been due to investigators from our ranks, and I do not doubt that in the future some of the graduates of our pharmaceutical colleges will lead in developing some of the yet hidden mysteries of chemistry. I hope it may fall to the lot of some of you to make a reputation as successful investigators in the science of chemistry.

"The art of pharmacy is to properly apply the knowledge of chemistry to articles of materia medica, in order to obtain the best product which can relieve the sick and diseased. The best product. The sick patient who longs for returning health thinks the best is none too good for him. Let no inducement lead you to give any but the best which can be had. You are to select the best drugs, procure or make the best chemicals, and your pharmaceutical products should be the result of the best and most careful manipulations.

"The desire of many of our present merchants, tradesmen, and dealers, is to make money rapidly. If you will resist the temptation of cheapening the quality of your articles in order to obtain greater quantity, and adhere to rigid principles of honesty in every branch of your business, you will be sure to be rewarded with a clear conscience, a good reputation, and a fair prospect of comfortable gain. Let no one induce you to take any short road to riches; such persons are not your friends.

"In our vocation riches come slowly, though the dear public are apt to think differently. No occupation requires so much work for so small a pecuniary return. The emoluments of our calling are restricted, the expenses comparatively heavy, the profits accumulate slowly; but if you will add little by little, they will in time make you comfortable, but never rich.

"Resolve to take pleasure in your business, and do not look upon it as a hardship by which you are to gain a livelihood. I know of no vocation which embraces within its legitimate duties so many sources of pleasure, relaxing to mind and body, and yet aid in developing scientific improvement. Take both pride and pleasure in your daily duties, and when the petty annoyances of business occur you will scarcely heed them. Let me place before you as a pattern in pharmaceutical industry one whose name will always be revered by pharmacists throughout the world; one of whom you have often heard me speak, the late Professor William Proctor, junior. He found time amid the cares of his business to contribute more useful literature to pharmacy than any one else in our land. For 25 years he edited the *American Journal of Pharmacy*, and during 22 years he lectured on pharmacy in the college with which he was connected. He truly deserved the title of the 'Father of American pharmacy.'

"We are not only to be receivers, but givers. So you should do, endeavour to receive information, but do not fail to communicate it to others when it will be to their benefit, or when it is asked of you. Make research which may be of interest or profit to yourself, but extend the information to your associates.

"Make your stores a place where reliable remedies and information can always be had. Agreeable manners and a pleasant word for every customer, however humble, is a duty.

"Neatness should characterise your stores. Attention to business, punctuality in engagements of every kind, should characterise yourselves.

"Remember that life is but a short journey, and the journey's end is not far off. So live that in the light of a future existence your work here will bear the scrutiny of Him who sees and knows all things. Life is at times a wearisome journey, with many discouragements to the toiling traveller, with days of joy and seasons of sorrow, but have ever before you the pattern given by an inspired writer:—'Not slothful in business, fervent in spirit, serving the Lord.' So shall the journey be pleasant, and the journey's end be perfect peace."

THE COPAL TRADE OF ZANZIBAR.

Captain Elton, the First Assistant to the Political Agent at Zanzibar, has drawn up a valuable report on the condition of gum copal in Zanzibar, based upon inquiries lately made by him at Dar-es-Salam. It was difficult, we learn, to arouse any interest in inquiries made at Dar-es-Salam with regard to the whereabouts of the modern copal tree. The Arabs asserted that it was not worth taking the trouble to look at, and when the Banyans, who in the neighbourhood of Zanzibar trade largely in "Animo," were referred to, they adopted a similar view of the inutility of taking any trouble in the matter, adding, with characteristic hankering after profit, "If the true Sandarasi could be dug nearer the coast that would be a gain to us;

but do not all know the tree copal is cheap stuff?" Some maintained with persistency that there were no such trees now standing near Zanzibar: "those seen by people before had long since been cut down," "there were but few far inland;" and others seriously attempted to convince the inquirers that the existence of the "Inti Sandarusi" was questionable. In fact, Captain Elton failed altogether to elicit any information or excite any sympathy on this interesting subject amongst the more civilised portion of the community, so he turned to the slave population and instituted an inquiry on the Seyyid's plantation outside the town. Here he soon discovered not only that several isolated trees and small groups existed within reach, but also that the slaves employed in clearing land had arrived at an extensive belt of them, where the India-rubber Uiana was also abundantly found, and which spread for a considerable distance inland. He left Dar-es-Salam in company with Lieut. T. F. Pullen, and proceeded with a guide in a westerly direction for some two miles, until a "clearing" of the customary east coast description was reached. Charred stumps of trees and felled and blackened trunks, entangled with the tough half-burned ropes of the India-rubber climber, strewed the ground, and obstructed rapid progress over ankle-deep layers of wood ashes and treacherous "stubbing" holes, on the one side as far as the long "straw" grass and thick brushwood bordering the cultivated lands, and in the other direction up to the outskirts of a dense African forest stretching far away towards the Marni Hills and the Uzaramo. Past this clearing slaves were found busily at work haecking down trees recklessly, and from amongst these people the guide chose two slaves, one a Miao and the other an Inninde, who led the way over the wrecks of some hundreds of fallen trunks, until at last the explorers found themselves amongst the "Inti Sandarusi." They were astonished at the immense number and size of these trees.

The following carefully measured dimensions are given as representing an average tree, but by no means one of the largest of the group:—

	Ft.	In.
Height (top branches lepped off) ..	60	0
Girth at ground	4	3
Girth at 5 feet above ground ..	3	2
Height to 1st branch	21	6
Girth at 1st branch	2	10

The trunk, which is covered with a moderately thick bark, 3-16ths of an inch, resembling that of the birch, grows perpendicularly in the larger proportion of trees to a height of about 20 to 25 feet. At this point the main limbs fork out, and from the extremities of the branches the foliage spreads into that flat-crowned appearance so common to many African trees. The fruit is of a brown colour and an irregular almond shape, studded with small excrescences, the leaves glossy and of a vivid green.

On stripping off the bark the gum was found deposited in many places between it and the wood, in a liquid form. This was also observable to a greater extent when sawing off sections of branches. Where the tree was injured a resinous gum had collected in considerable quantities, and was also seen on several trees on the lower sides of the branches: on the upper sides none was seen.

The Inninde climbed up and stripped off several specimens with a knife, but none of these run to a large size. The larger pieces, Captain Elton was told, are found at the foot of the tree, where, falling, they become buried in the sand.

Marks of digging were observed in all the surrounding soil; however, Captain Elton is inclined to think the gum falls in a liquid state, for no extensive deposit was noticed except where a state of decay existed.

It is probable that where trees have been left to fall to pieces from sheer old age large quantities may with reason be expected to be found buried, and to have survived all traces of the tree itself on the ancient site.

Insects innumerable live on the "Inti Sandarusi." One branch was cut down in which a family of ants had formed a large nest behind a wall of the gum, and were rapidly undermining the heart of the wood. Between the bark and the wood, and stripping the former covering, legions of ants and wood lice were seen, and a small green lizard with a yellow head, striped longitudinally with black lines, was pointed out as peculiar to the tree.

The conclusion, says Captain Elton, which both Lieut. Pullen and myself arrived at is that the attacks of the swarms of ants and other insects lead invariably to the slow but sure destruction of these trees, piece after piece, branch after branch; as the

heart of the wood becomes undermined the tree throws out the resinous gum in considerable quantities, almost, it would seem, in an effort to arrest the process of decay which occasions finally its fall, after which but a few years would be necessary to bury the wreck in the shifting sand which covers the surface of the sienna-coloured sub-soil, rich in vegetable remains, in which the copal tree is found. Almost all these trees were festooned with the long intertwined ropes of the India-rubber Uiana, the thickly matted cords of which, pendant from the main limbs and knotted into a sort of rigging, become an easy means of ascent to the natives looking for the resinous deposits on the branches. This India-rubber was worked rather extensively here at one time, but was soon given up as unprofitable in consequence of the number of slave lads carried off by leopards. Now, however, it does not appear to strike the Sultan's overseers that it would be more lucrative to collect it as they move on with the clearing than to cut down and burn the Uiana by hundreds. Our guides easily worked up two large balls of India-rubber for us. After making deep longitudinal incisions in the main ropes of the Uiana, the milky substances which exuded profusely they smeared on the fore part of the left arm. When enough had been procured, this was stripped off in flakes and rolled up in the hands until it assumed the shape of a small dumpling. At Dar-es-Salam this article of commerce commands a price of from \$9 to \$10 per frasilah of 35 lbs. weight. The slaves told us that you could travel for two days into the interior before losing the "Inti Sandarusi," and that during the whole of that distance the India-rubber was commonly parasitic to the trees. At the rate the clearing progresses, however, it will not be long before this copal tree will become a thing of the past. At a second visit, when we worked along and into the wood, all we saw only confirmed the conclusion we had already come to. However, I trust after inspecting the principal diggings, to be able to give a more detailed account of the situations in which the tree is found, and its relation to the fossil Annimé.

Captain Prideaux, the Acting Political Agent, has brought the matter of the wanton destruction of the gum copal and India-rubber trees to the notice of the Sultan of Zanzibar, who, we are told, at once promised that orders should be given for the practice to be discontinued.

THE CAMPHOR TRADE.

THE camphor of commerce is obtained from the camphor laurel, *Camphor officinarum*, which grows in China, principally near Chinchow, in the province of Fokien, in the Island of Formosa, and in Japan. There is another description, which is highly prized by the Chinese for its supposed medicinal qualities, that is found in a solid state in the trees growing upon the islands of Borneo and Sumatra, and throughout the Malayan Archipelago. The Arabs were acquainted with the properties of this article, which they called kaphoor, but it does not appear to have entered into the traffic of the Romans or the Greeks. Both kinds appear to have been used by the Hindoos before the arrival of the Europeans in India, and the prices of the different sorts, reduced to present Indian weights and moneys, will be as they existed in Malabar and Calicut at the beginning of the sixteenth century. There are many plants, such as the cinnamon tree, which supply a kind of camphor; another source is the *Blumea grandis*, one of the most abundant weeds throughout the Tenassarim provinces. It grows six or eight feet high, with leaves which, when bruised, emit a strong odour of camphor. There is also an imitation in Japan, but it can be easily distinguished from the genuine. The camphor tree has been successfully cultivated in Europe, and there is mention of one at Malmaison over twenty feet high by six inches in diameter. In Spain camphor has been manufactured from several *Labiata*, and has been prepared artificially by passing a current of muriatic acid gas through turpentine: this variety has not, however, been used in medicine.

The camphor of commerce is derived from a shrub which much resembles the ordinary laurel in appearance, and several specimens may be seen growing at the royal gardens of Kew. It is an evergreen, and grows to a considerable size, and emits a camphoraceous odour when bruised. The leaves are shining

of a bright green. The wood, which is white and fragrant, much prized by the Chinese for carpentry work, since the it keeps off the operations of white ants and other insects. There are several methods adopted in different countries for refining the crude camphor, viz., the original condition in which it is brought to Europe. These consist chiefly in separating the root, trunk, and branches, which, being cut into chips, introduced into a still with water, and heat applied, when the steam generated carries off the camphor in vapour. These vapours rise, and, passing through rice straw, with which the bottom of the still is filled, the camphor solidifies and is deposited on the straw in minute grains or particles, somewhat about the size of coarse sugar or sand, which by aggregation form yellowish, crumbling cakes, with all the properties of purified camphor. These cakes of impure camphor are refined by being introduced into a large globular glass vessel in quantities of about 10 lbs., are reheated, when first the water rises in steam, and is allowed to escape at a small aperture; and then, when this aperture is closed, the camphor sublimes and redifies in the interior upper part of the flask as a semi-transparent cake, leaving all impurities behind. The flasks are then cooled and broken by throwing cold water upon them, and the camphor is taken out and sent to market. The glass globes employed are called by the Italian name *bomboles*, the sublimation of camphor having been first practised at Venice, where it is held as a monopoly, but it is now done in all the large cities of Europe. The process, which is completed in about 48 hours, requires considerable attention and experience. There are two kinds of unrefined or crude camphor known in commerce:—1, Dutch or Japan camphor, also called tub camphor, in the circumstance of its being brought from Batavia in tubs covered by matting, each surrounded by a second tub, lined on the outside by hoops of twisted cane. Each tub contains from 1 cwt. to 1½ cwt. or more. It consists of pinkish lumps, which, by their mutual adhesion, form lumps. It is of a lighter grain, clearer, and sublimes at a lower temperature than the second variety, which is known in commerce as, 2, ordinary Chinese camphor, China camphor, and Formosa camphor. This is imported from Singapore, Bombay, &c., in square chests lined with lead foil, and containing 1½ to 1¾ cwt. It is chiefly produced in the Island of Formosa, and is conveyed in junks to the Chinese ports of Shanghai and Canton, whence the foreign markets are supplied.

Of the first description, in 1870—the last year for which returns are obtainable, owing to alterations in the accounts at the British Custom House—there were imported from China 390 cwt.; from Japan, 2,576 cwt.; from the Straits Settlements, 1,023 cwt.; from Bombay, 311 cwt.; and from Germany, Holland, and France together, 568 cwt.: in all, 12,368 cwt., valued at 45,294*l.*, making an average of 3*l.* 13*s.* 3*d.* per cwt. Of the second, or better kind, the imports were:—From China, 2,171 cwt.; from the Straits Settlements, 51 cwt.; from France and Germany together, 139 cwt.: in all, 2,361 cwt., valued at 14,498*l.*, making an average of 6*l.* 2*s.* 10*d.* per cwt. There is a considerable traffic carried on between the Chinese mainland ports of Shanghai, Hong Kong, and Canton with the ports of Tamsuy and Taiwan, on the Island of Formosa, and between the Chinese ports and the ports of Japan.

The Island of Formosa is the chief place where the camphor of commerce is grown. This island is populated by the Chinese, who inhabit the fertile plains, where rice, sugar, and indigo are produced, and by a mixed race of civilised aborigines and Chinese, on the lower range of hills, where tea and hemp are grown; and in the higher range, amongst the mountains—one of which, called Mount Morrison, is said to be 13,000 feet in height—the camphor laurel flourishes. Here, beyond the boundary line of territory under the Chinese government, have arisen constant disputes with the savage tribes, accompanied often with fearful atrocities and destruction to the timber. The fine camphor trees thus destroyed it will take many years to replace; and as, from the peculiar character of their large, outspreading growth, they only occur at widely-scattered intervals, the time may not be distant when this chief source of profit may be reckoned as one of the things of the past. At present they are limited to the Taiwan and Tamsuy localities, the trees having long since disappeared from the mountains of the southern department accessible to the Chinese settlers. Formerly the camphor trade was a monopoly granted by the Chinese government. The camphor mandarin, as he was termed, who enjoyed this monopoly paid 60,000 dollars annually into the imperial treasury for his privilege, and having obtained the camphor at

the rate of about five dollars per picul of 133½ lbs., he would then sell it at 27 dollars. One dollar for duties and some other slight expenses increased the cost, and about 10 per cent. was lost by evaporation during the transit, for, with the proverbial dogged conservatism of their nation, they insisted on continuing to pack it in wood instead of stowing it in tin cases, by which contrivance it might be all saved. The profits still remained considerable, and it is the opinion of competent judges upon the spot that, under the peculiar circumstances of the camphor manufacture and trade, a monopoly of this kind, carried out under European superintendence, might even be productive of good results. How long this system had been in existence is not known, but in the earliest trade notices, which date back to the commencement of 1862, this monopoly is mentioned as a thing of some standing. At the end of 1868 free trade was proclaimed; but, in spite of the promises held out, the traffic did not greatly increase. Local seizures, intimidation, and persecution by Chinese agents, with many other obstacles placed in the way of British merchants by the native officials, almost amounted to a revival of the monopoly, the abolition of which represented an annual loss to the government of 60,000 dollars. These obstacles required to be removed to induce British merchants to embark their capital in a trade subject to such arbitrary and oppressive interruptions. At the port of Tamsuy the principal article is camphor, and perhaps the most interesting, since Tamsuy seems to be the main source from which the supply is obtained for the European market. The export of 1869 was not quite equal to that of 1868, but was much above the average of former years. The camphor trade seems always to have been carried on in the midst of various claims and disputes. In the earlier part of that year several boatloads of camphor in which English merchants were interested had been plundered in the upper part of the river. The cause of the plundering was alleged to have been some dispute among the Chinese camphor dealers themselves, but pecuniary reparation was made to the owners by the mandarins. At Taiwan, in 1870, the export was valued at 5,316*l.*, but the trade had been attended in the south of the island with such heavy losses, owing to the action of the local mandarins, that no fresh operations were commenced. In 1871, at Tamsuy, the trade had met with discouragement in consequence of the Hong Kong prices. The following figures, extracted from the Consular Reports, will best show the commerce at the two ports where the camphor is exported, and it will be observed that the trade at Taiwan has dwindled to the small value of 212*l.*, and that it is now almost entirely confined to the more northerly port of Tamsuy. The exports were as follow:—

	Taiwan		Tamsuy	
	Piculs	£	Cwts.	£
1868 .. .. .	....	2,195	17,148	....
1869 .. .. .	....	3,393	16,425	29,330
1870	2,363	5,316	17,239	29,080
1871 .. .. .	....	....	11,537	15,048
1872	95	212	12,239	23,363

Vice-Consul Baber maintains that, even under adverse circumstances, the production of camphor succeeds in maintaining itself at about the same annual rate without much progress or retrogression. The production in the Sau Koying district had decreased about 200 piculs per month, owing to the frequent attacks of the aborigines on the distillers, while production in the Tokoham region had scarcely increased. The country round Kiamchaiang had afforded an irregular supply of 200 to 300 piculs per month. The three might roughly be estimated at 13,200 for the whole of the year 1872. The Customs returns show that of this amount 10,281 piculs were exported in foreign vessels. The price during the same time had ruled at rates showing a profit of two or three dollars per picul to producers. There had been a larger number of Chinese buyers visiting Tamsuy for the Hong Kong market than in former years, owing to the increased facilities for transport afforded by regular steamers. Foreign buyers, not being able to compete with these Chinese, who can live and work cheaper, had not bought so much as in former years. Several Hong Kong Chinese were anxious to obtain transit passes in preference to paying "Ckin," but none had as yet been issued to them. No attempt had been made at renewing the monopoly of former years, and the

trade has lost much of the danger which once existed in its pursuit.

The Japanese camphor is produced chiefly in the districts of Tosa, Satsumu, and Bungo, and the principal exports are from the ports of Hiogo and Osaka. At Nagasaki, in 1869, a considerable decrease had taken place, in consequence of its having been sent to Hiogo on trial, rather than from any falling off in the production. Only 597 piculs were exported, showing a decrease of 3,974 piculs compared with 1868. The prices ranged from 18 to 23 dollars. In 1870 only 13 piculs were exported from Kanagawa, and from Hiogo the quantity was 15,770 tubs, valued at 220,780 dollars. At Nagasaki the camphor had declined in price, the average during the year being \$15 25 per picul. This was attributed to the large quantities of Formosa camphor which, since the removal of the restrictions upon its export, had been brought into competition with the Japanese camphor. In the year 1871 the value of camphor exported from Japan amounted to 138,575 dollars, and the following will show, also, the value and places of export in 1872:—

	1871	1872
	Dols.	Dols.
Kanagawa .. .. .	....	1,441
Hiogo and Osaka .. .. .	....	132,743
Nagasaki .. .. .	....	18,695
Total	138,575	152,879

Some camphor was sent to England, but the exports were small, in consequence of the high freights, whilst most of the produce of the country, owing to the superiority of the vessels, goes to the Chinese port of Shanghai.

SPANISH FLIES.

By A VILLAGE PHARMACIST.

ONLY two insects are now admitted into our Pharmacopœia, namely, Spanish Fly (*Cantharis vesicatoria*), and the Cochineal insect (*Coccus Cacti*). The name Spanish Fly is not exactly correct: strictly speaking, it is a beetle, and even "Spanish Beetle" would be scarcely accurate, for though it was formerly procured almost exclusively from Spain and Italy, it is now chiefly obtained from St. Petersburg and Sicily,—not because we are unable to secure a supply from Spain, but because the Russian insect is much more valuable. It would be difficult, perhaps, to detect a sample from Russia if placed by the side of a Spanish specimen, so far as external appearance is concerned, but it is a stubborn fact that the drug brokers show strong preference for the parcels from St. Petersburg to those from the south of Europe. The insect is found, though sparingly, in the south of France, and English invalids, who spend the summer at Montpellier, often find a specimen when passing through the stoney and rough olive yards. It may surprise some readers to hear that it is also an English insect; nevertheless this is the fact, although it is so rare and is met with so seldom that it cannot be made serviceable. Suffolk is a paradise to the enthusiastic entomologist, for he there meets with many exceedingly rare specimens for his cabinet, and in the summer and autumn of the year 1837 an immense quantity of the cantharides appeared at Colchester. They are said to have literally swarmed on the ash trees in that neighbourhood, so much so that these trees were repeatedly beaten with long poles to rid them of the insect, which threatened to strip them of their foliage and thus destroy the trees. In the same year they abounded at Ipswich, as well as in many other parts of the country, and they were also reported in the Isle of Wight. A physician in the latter locality, evidently awake to his own interests, collected a quantity and used them in the place of the exotic specimens. We are not aware that they have ever been observed in any quantity since 1837, but it is well to bear this strange entomological freak in memory, so as to make it useful should it occur again.

If the Spanish fly is looked at carefully it will be seen to bear a considerable resemblance, externally, to our common

beetles, in the shape and formation of the wing cases, etc. It is placed in the large order called *Colcoptera* (beetle family), and in the family *Cantharide*: in this family every species, more or less, possesses blistering properties.

The generic name applied to this beetle is very old: it was known to the ancients, in whose writings we first become conversant with it, although much obscurity hangs over it, and it is difficult to tell exactly which family is intended. Pliny says, "Cantharides is produced by a small grub, found more particularly in the spongy excrescences which grow in the stem of the dog rose, and still more abundantly in the ash." He is certainly in error about the insect on the rose bush, but the one on the ash tree agrees with the place where the true *Cantharis* is generally found. Our English children call the large red sponge-like excrescences on the dog-rose (*Rosa canina*) "Robin redbreasts and picushions."

Royle states that the Greeks used a blistering insect, but it was distinguished by having yellowish bands running transversely across the elytra (wing cases): this is not the true *Cantharis*, but a species of *Mylabris*, a Coleopterous insect closely allied to *Cantharis*. The officinal blistering fly has had almost as many generic names as a Spanish grandee. It was called *Meloe* by Linnaeus, *Lytta* by Fabricius: the name by which it is at present recognised by pharmacists (*Cantharis*) was given by Geoffroy.

Their presence, when living, is said to be easily detected by the strong fœtid odour which they exhale; so offensive is this odour in hot sultry weather that public walks and gardens are frequently deserted until they have disappeared. Little more than a week makes up the short span of their existence in the perfect or winged state.

If slightly touched they feign death and fall to the earth: this habit is not unknown to the collectors. The odour exhaled from them is not only offensive, but it is stated to affect the eyes and cause ophthalmia in persons who collect them. In early morning the beetles are in a semi-torpid state, therefore it is the custom to spread cloths on the ground beneath the trees, and, having covered their faces and hands, proceed to beat the branches with long poles: they are then easily detached and fall on the cloths. To destroy them they are placed in large hair sieves over boiling vinegar: the vapour speedily destroys life. Afterwards they are dried before being exported by exposing them on hurdles covered with paper, in a shady place.

The American pharmacists use two other species of *Cantharis*, which appear to possess powerful vesicant properties, namely *C. vittata*, and *C. cinerea*. The former insect is commonly called the "Potato Fly:" it feeds on leguminous plants, such as peas and beans, and is described as having longitudinal yellow bands on the wing cases. In America it is esteemed in preference to *C. vesicatoria*.

Cantharides are frequently purchased in this country by the retail chemist in a powdered state. They are not unfrequently adulterated with other insects before being exported. We have heard many complaints about powdered Cantharides not keeping long in stock. Sometimes it becomes mouldy and almost inert: this is caused by being damped with water before being ground. Sometimes it is infested with an insect, but this need never be the case if the chemist would take care when receiving any new stock to place small lumps of camphor in the jars, and to keep it in tightly stoppered bottles.

The active principle—Cantharidine, $C_{10}H_6O_4$ —is a crystalline substance, first discovered and named by Robiquet. It is white and glistening, and has a flat plate-like appearance: it easily fuses into a yellowish-looking oil, but volatilizes at a high temperature. It is remarkable that both water and spirit will dissolve it from the Cantharides, but if first prepared or isolated it is then insoluble in either menstruum. It is an unpleasant chemical to experiment with, because of its injurious effects upon the eyes, causing great irritation and weakness. In a pure form so small a quantity as the $\frac{1}{100}$ th part of a grain will raise a large blister on the human skin. Besides the active principle, a fatty matter, a greenish oil, and several other distinct products have been discovered in Cantharides. It may be observed that all the family (*Cantharide*) contain both the green fatty or oily matter and Cantharidine in a larger or smaller quantity.

There are other beetles, of the genus *Meloe*, closely allied to the true *Cantharis*, known as "Oil Beetles," which also possess blistering properties. According to one of our entomological writers, these are sluggish, wingless beetles, having but small elytra. They are found in spring slowly crawling over butter-

violets, etc., on heaths and commons. When handled they come from their legs principally, a peculiar greasy substance (cow oil), from which circumstance they have acquired their popular name of oil beetles. This oily substance has been used in rheumatism and dropsy, and has also had the reputation of being a specific in hydrophobia. Dr. Leach states that Frederick the Great purchased the nostrum from the discoverer for a considerable consideration, as a specific against the bite of a mad dog, and in 1781 it was inserted in Sect. ii. p. 25 of the "Sp. Boruss. Brand." According to this publication, 25 of the insects preserved in honey, with two drams of powdered black ebony, one dram of Virginia snake root, one of lead roots, and 25 of fungus sorbi, are reduced to a very fine powder, which, with two ounces of theriaca of Venice (and sweetened with a little elder root), is formed into an electuary. This is one amongst the hundreds of other so-called specifics against hydrophobia.

ARTIFICIAL BUTTER.

THE following is an abstract of a report presented to the Board of Health of the Department of the Seine, by M. Felix Delafontaine, of the successful experiments of M. Mege Mouriez, undertaken for the French Government with the object of procuring a cheap and wholesome substitute for butter. We are indebted for the translation to the *American Chemist*.

M. Mege commenced his experiments at the farm at Vinces. He placed several milch cows on a strict diet; soon these experienced a decrease in weight and furnished a proportionately less amount of milk; but this milk always contained butter. Where could the butter come from? M. Mege believed that it was produced from the fat of the animal, which, being re-absorbed and carried into the circulation, was deprived of its stearin by respiratory combustion, and furnished its oleo-margarin to the udders, where, under the influence of the mammary pepsin, it was changed into butyric oleo-margarin; that is to say, into butter.

Guided by this observation, M. Mege attempted immediately to copy the natural operation by using at first cow's fat, then of suet; and he was not long in obtaining, by a process as simple as it is ingenious, a fat fusible at nearly the same temperature as butter, of a sweet and agreeable taste. He then proceeded in transforming this same fat into butter by a process similar to that of nature.

He accomplished this as follows:—

The fat of newly-slaughtered beef of the best quality was wound up between two cylinders whose conical teeth crushed it and tore open the membranes which enveloped it. After having undergone this grinding it fell into a deep vat, heated by steam, and into which there were turned for every thousand kilogrammes of fat 300 kilogrammes of water and 1 kilogramme of potassic carbonate, besides two sheep's or pigs' stomachs cut into small pieces. The temperature of the mixture was then carried to 45° centigrade, and the mass carefully stirred. At the end of two hours, the fat, separated from the membranes which enveloped it by the influence of the pepsin of the stomachs, becomes entirely melted and collects at the top of the vat. By means of a flexible tube tipped with the knob of a sprinkling pot, it is then led off into a second vat heated on a water-bath to 30 or 40°, when there is added two per cent. of sea-salt, in order to facilitate the depuration. In two hours this fat is separated from the fragments of animal substances which have escaped the dissolving action of the pepsin, and from the water which it still retains; it becomes clear and presents a beautiful yellow colour, and an odour very similar to that of butter newly churned. It may now be solidified in tin coolers of from 25 to 50 litres capacity.

By means of hydraulic pressure and a carefully regulated temperature, this fat is separated into nearly equal portions of solid stearin and liquid oleo-margarin. The former is employed in the candle manufacture; to the latter we need only devote our attention.

The oleo-margarin, when it has been congealed by cooling, presents a granulated appearance, a colour slightly yellow, and an agreeable taste which suggests neither that of tallow nor butter. Stearin being removed it melts in the mouth like butter,

while beef fat would in that condition be separated, first into stearin and oleo-margarin, the stearin adhering more or less to the palate.

Having well washed the oleo-margarin, it is obtained of a homogeneous consistence, and constitutes excellent cooking grease, replacing with advantage and economy the different fats and even butter in ordinary cooking. It is especially valuable for the navy, on account of the facility with which it may be preserved a very long time without becoming rancid. It is actually sold in Paris under the name of margarin at the rate of from 80 centimes to a franc for half a kilogramme, and is already much in demand.

But the real butter has yet to be produced, and for the next steps of the process M. Mege thus proceeds.

Having observed that the mammary glands of the cow, which secrete the milk, contained a peculiar substance, a kind of pepsin, endowed with the power of emulsifying grease with water, he made use of this observation to transform the oleo-margarin into cream, and finally this cream into butter.

He places in a churn 50 kilogrammes of oleo-margarin, melted, about 25 litres of cow's milk, which represent less than one kilogramme of butter, and 25 kilogrammes of water containing the soluble parts of 100 grains of the mammary gland of the cow very finely divided and kept for some time in maceration. He adds a small quantity of annatto, in order to give the colour. The churn is then set in motion, and at the end of a quarter of an hour the grease and the water become emulsified and transformed into a thick cream similar to that of milk. By continuing the motion of the churn the cream changes in its turn into butter, in a longer or shorter time, according to the conditions of the operation; usually two hours suffice.

The churning being ended, some cold water is poured into the churn, and the butter separates, containing, like ordinary butter, butter-milk, which must be separated from it. The product is then placed in an apparatus like a kneading machine, and composed of two cylindrical crushers placed under a stream of water. There it is worked in a way to change it into well-washed butter of fine and homogeneous consistence.

A chemical examination of this product shows that it contains much less water and animal substance than the ordinary commercial butter. These circumstances assist without doubt in its preservation, which is much more perfect than that of common butter. They also prevent it from acquiring the odour and acidity which are soon developed in the latter.

From a very thorough investigation the reporter concludes that if the artificial butter has not the fine and aromatic taste of the Normandy butter for eating with bread, or use in culinary preparations, it does afford in many other respects the qualities of ordinary butter perfectly.

We regret that the report omits particulars of cost and quantity obtained; but it is sufficiently explicit to satisfy us that a really practical method has been discovered for producing a good sound economical substitute for a most wholesome article of diet. It is sincerely to be hoped that this article will be allowed to enter into commerce under a designation which shall sufficiently define it, but not that the whole benefit of a discovery intended for the public good shall be diverted into the pockets of dishonest traders.

ON THE MODE OF ACTION OF IODINE AND ITS PREPARATIONS.

BY PROFESSOR SÉE.

(From the *Medical Times and Gazette*.)

IODINE may be made to enter the system through different channels—viz., the digestive tube, the skin, the mucous membrane of the respiratory organs, and the serous cavities.

The digestive tube is the most certain and natural channel, and it is this which is nearly always taken advantage of. The tincture of iodine is scarcely ever prescribed internally—in fact, it possesses no advantages, but offers, on the contrary, certain inconveniences. If it remain in the stomach in the form of tincture, it produces a caustic effect on the mucous membrane of the digestive organ, but it always combines with

a little soda or potash which it meets with in the stomach, and is converted into an iodated alkali. Hence it may be soon that those who administer iodine in its simple form are labouring under an erroneous impression if they imagine that the drug undergoes no change in the stomach.

The iodide of potassium should not be administered in the form of pills, as it is thus liable to produce a caustic effect on the mucous lining of the stomach; it should always be given in solution. And in prescribing this salt one should always bear in mind that the greater the quantity of liquid in which it is dissolved, the better the absorption. There is, however, a certain limit to the quantity of fluid to be employed, which of course a physician will not exceed, and which it is scarcely necessary even to mention.

The skin has often been selected as the channel for iodine to enter the economy. In employing an ointment composed of iodine in the proportion of one part to ten parts, in certain cases an effect is produced, in others nothing is obtained,—that is to say, in certain cases iodine has entered the organism, in others it has remained on the skin. It is expedient to know under what circumstances the iodine has been absorbed. Divers explanations have been given to account for the above facts. According to Professor Sée, two conditions contribute to the absorption of iodine:—1. To make iodine enter by the skin, the epidermis, which acts as a barrier, must be destroyed. To effect this, strong and repeated frictions of iodine ointment will have to be employed; but it is evident these cannot be continued, and a single friction would be perfectly useless. 2. In examining these facts, it is found that there are cases in which the epidermis has not been in the least affected by the frictions, and in which, nevertheless, the absorption of iodine might be proved. This would appear to be in contradiction to what has just been stated above, but it might be explained by the extreme volatility of this metalloïd. When iodine is rubbed into the skin in the form of ointment, it is found in the mucous membrane of the lungs; whereas when an ointment is made of an iodide, the latter is not found in the lungs, because it is not volatile, and does not contain free iodine. Thus it may be seen it is by the air-passages, and not by the skin, that the iodine entered the system; and in proof that this is the case, it is sufficient to leave a phial of iodine uncorked near oneself, and the latter will be absorbed without touching or putting it to the nose, for it is found in the secretions.

Quacks seem to have been aware of this phenomenon when they invented the sachets of the powder of iodine, iodised cotton, and iodised flannel vests which are to be worn next the skin. These divers agents possess a real therapeutic property; but the explanation of their action is the same as that given above—that is, the iodine they contain is absorbed by the air-passages, and not by the skin. If a piece of iodised cotton be placed on the arm, and covered with a watch-glass or a glass bell, nothing will be observed; but in a person who wears an iodised vest constantly, the iodine enters his economy, not by his skin, but by his nostrils.

Painting with the tincture of iodine has much the same action; we know to what extent this is now employed, and there is scarcely a pain, a case of scrofula or phthisis, in which it is not resorted to. In phthisical patients, the tincture of iodine externally has taken the place of blisters and cauteries; and the change is certainly to the advantage of the iodine; but its action is not that of blisters or cauteries. Here, also, the same explanation may be given of its action; but there is one effect which is scarcely suspected, and that is, when the tincture of iodine is sufficiently strong, or the painting too frequently renewed, the epidermis is destroyed. The iodine enters the fissures thus formed, and produces inflammation of the cellular tissue, as has been observed at post-mortem examinations. To produce a more direct action on the tubercles of phthisical patients, it would certainly be preferable to place an open phial of the tincture of iodine on a table near the patient, as has been practised by M. Piorry, in order that the iodine may be inhaled.

Iodine baths are also intended to act on the skin. These baths, which used to be much lauded, are now seldom or never employed, as their efficacy is very much questioned. It has been asserted that after an iodine bath this metalloïd has been found in the urine. In this case, how did the iodine enter the body? Not by the skin, but by the air-passages; and even then such a result cannot be obtained unless the bath-room be hermetically closed, and the patient remain in the bath some time.

Fomentations are also intended as a means of effecting the

absorption of certain medicaments into the tissues. These substances are varied, according to the effect desired—such as the tincture of iodine, laudanum, belladonna, &c. As with frictions, a real effect is sometimes obtained with fomentations, at other times none. This depends on the state of the skin, which is different in different individuals. If the skin be soft and pervious, iodine and the other substances may be absorbed, but it is difficult to know when the skin is in a favourable condition for absorption and when it is not. There exists normally on the skin an oily coating, which opposes the penetration of the iodide of potassium. A soap bath may remove this varnish, but it is immediately reproduced; and individuals who have greasy skins, whatever they may do, will never succeed in making their skin absorb the iodide.

The same may be said of baths composed of the mono-sulphuret of sodium. Little or nothing is absorbed unless the doors and windows are closed, for the sulphuretted hydrogen which is evolved is about the only active agent, as it is taken up by the respiratory apparatus. This would explain the superiority of the sulphurous waters—such as Luchon, Barèges, which whiten on being drawn—over those that do not whiten, as Amélie-les-Bains. Iodised baths owe their efficacy to the iodine being absorbed by the respiratory organs.

There are some natural iodated waters, but they are rare, in France; there are only those of Salins and Salies, in Béarn, and it must be admitted that they are not very rich in iodine. In Switzerland they have the waters of Saxony; in Prussia, those of Kreutznach. These latter cannot be replaced; they are those that contain the most iodide and bromide of potassium combined. Nevertheless, the French might still avoid going to Prussia by utilising hot sea-water baths. The sea water, and particularly the sea air, contain a certain proportion of iodine and bromine. But it must not be forgotten that this atmosphere does not extend very far, and that about 400 or 500 yards from the shore we get the breeze, but not the iodised air; to have the benefit of this, one must remain the whole day on the beach, or, what is still better, take up his residence on the seacoast.

When iodine enters the economy it is easily detected, and is almost immediately found in the urine and in the saliva; but the whole is not found at once. The elimination of iodine takes place more rapidly when it is administered in the form of iodide; but in whatever manner it is given, when the iodine enters the blood it combines with the potassium contained in the corpuscles; and as the salts of potash are very diffusible, it is not surprising to find iodine in the urine almost immediately it enters the blood. Iodine remains in the economy longer than one would be led to suppose, judging from its facile elimination, and it is found in the saliva after its presence has ceased to be detected in the urine. The elimination of iodine is intermittent, and it has been frequently seen that an individual who had been eliminating iodine that he had been taking, ceases to eliminate for some time and then begins again to eliminate.

The same is the case with arsenic and mercury, particularly the latter. If you mercurialise a dog by friction, the animal may eliminate mercury during two months, two months and a half, even three months with complete intermission. This tardy elimination may be explained by the fact that the drug does not remain in the blood, but in the organs.

REMINISCENCES OF THE DENTIST.

THE Editor of the *Danbury News* has preserved for the world the impressions which a fit of face-ache, and a consequent visit to the dentist, made on his mind. He writes:—

I think I must have caught cold by injudiciously sleeping on the floor during the period the house was being rinsed out. I had so much room that I must have become careless in the night, and got to trifling with the draught from a door. As I am a little bald the effect was disastrous. Through the day I felt a little stiff about the shoulders, with a sensation between the eyes as if I had been trying to inhale some putty.

When I went to bed that night I apprehended trouble. Along one jaw, the left one, occasionally capered a grumbling sensation. It kept me awake an hour or so trying to determine whether that was all there was of it, or whether there was

nothing to come after which would need my wakeful presence to contend against. Thus pondering I fell asleep, and forgot about the trouble. I don't know how long I slept, but I found myself dreaming that I had made a match of fifty dollars a side fight a cross cut saw in a steam mill, and was well to work the job when the saw got my head between its teeth. I thought this was a favourable time to wake up, and I did so. I immediately transpired that I might better have stayed where I was, and taken my chances with the saw.

I found myself sitting straight up in bed with one hand spasmodically grasping my jaw, and the other swaying to and fro without any apparently definite purpose.

It was an awful pain. It shot around like a dog which had been cruelly camphened. It bored like lightning through the cement of my jaw, darted across the roof of my mouth, and ran lengthwise of the teeth. If every flying pang had been a drunken plough chased by a demon across a stump lot, I think the observer would understand my condition. I could no more get hold of the fearful agony that was cavorting around me than I could pick up a piece of wet soap when in a hurry. Suddenly it stopped. It went off all at once, giving me a stinging kick that fairly made me howl.

I thought I was rid of the teeth ache, but a grumbling set in again next morning. It was just like the feeling of the night before, and a still voice said to me, "Look out, Perkins."

I did. I went right away to the dentist who has pulled the teeth of our family and knew our peculiarities. There was an uneasy smell about his office. It was very suggestive of trouble, and as I snuffed it in I experienced a sinking feeling in the pit of my stomach. I looked at him and sickly smiled. He was, however, even on a holiday, the handsomest of men, but now his appearance was very, very depressing. He looked like a corpse with a lighted candle inside of it.

I told him what was the matter with me, how that I had been up all night with a four-storey pain, how my wife had been wrenched out of bed by the violence of my suffering, how—

He asked me if I wouldn't sit down. I sat down on what was once a hogshhead, but was now cut down and newly carpeted. He held back my head, opened my mouth, and went to fishing round inside with a piece of watch spring.

And while he angled he conversed. Said he—

"You have caught a cold."

"I have."

"It seems the trouble is with one of the bicuspid," he remarked.

Of course I didn't know what a bicuspid was, but thought I wouldn't look well in the head of a family being stuck with so short a word as that, and so I asked, with some vigour—

"Which one?"

"The tumorous," he said.

"I am glad it ain't any worse," I replied, throwing in a sigh of relief.

"The frontal bone," he went on to say, "is not seriously affected. The submaxillary gland is somewhat enlarged, but it does not necessarily follow that parotitis will ensue."

"I am proud to hear that," said I, which I certainly was, although if the parotitis had ensued it isn't at all likely I should have minded it much, unless it was something that would spill, and I was dressed up.

He kept on talking and angling.

"The oesophagus isn't loose," he next remarked.

"Ah," said I, winking at him.

"Oh, no; the ligaments are quite firm. I might say——"

"Murder! Fire!" I shouted in bewilderment.

"Did it hurt you?" he asked, looking as calm and cool as the lid of an ice-cream freezer.

"Hurt me? Great heavens! did you expect to split me open with a watch spring, and not have it hurt me? What was the matter—did you slip?"

"Certainly not," he said; "I was simply getting hold of the tooth. Just hold your head back an instant, and I will have it out at once."

"I guess I won't try it again," said I, with a shiver. "The toothache is bad enough, but it is heaven alongside of that watch spring. You may come up some time and pull it out when I ain't at home. I think I could endure the operation with necessary calmness if I was off about eight blocks. Come up when you can."

And I left. I hope he will come. I am boiling some pure spring water for him.

CHEMICAL SOCIETY.

Thursday, May 21, 1874.

PROFESSOR ODLING, F.R.S., President, in the chair. After the ordinary business of the meeting, the President called on Dr. W. H. Corfield to deliver his lecture "On the Sewage Question from a Chemical Point of View." The lecturer, after remarking that he was going to consider the value of chemical evidence on the sanitary view of the subject, compared the various systems for treating sewage, all of which might be reduced to two classes; the first that of conservancy, where more or less of the solid matter was retained in the neighbourhood of habitations, and the other where the whole of the excretal matter was removed along with the foul water by means of sewers. He emphatically condemned the former as poisoning the wells in the neighbourhood and tending to produce disease—the death-rate being in an inverse proportion to the efficiency of the means employed for the removal of the sewage. He subsequently discussed the methods of rendering sewage innocuous, showing that the only one of any value for this purpose was that of intermittent surface irrigation. An interesting discussion ensued, and the meeting finally adjourned until Thursday, June 4.

Thursday, June 4, 1874.

Professor Odling, F.R.S., President, in the chair. After the transaction of the ordinary business of the Society, the following papers were read:—1. "Dendritic Spots in Paper," by H. Adrian. These he finds to consist of sulphide of copper, formed from particles of gun-metal derived from the machinery employed in manufacturing the paper, and are far more usually found in common papers than in the better classes. 2. "The Acidity of Normal Urine," by J. Resch, M.A. 3. "On a Simple Method of Estimating Urea in Urine," by Dr. Russell and Mr. West. The apparatus employed for this purpose was exhibited and a practical illustration given by Mr. West. 4. "On Isomeric Acid," by E. Neison and J. Bayne. This acid, prepared by the action of nitric acid on jalapine, the authors find to be identical with sebacic acid. 5. "On Certain Compounds of Albumen with the Acids," by G. S. Johnson. 6. "On Sulphite of Acetyl," and, 7. "On a New Method of Preparing Toluene," both by Dr. Tommasi. 8. "Note on New Zealand Kauri Gum," by Mr. M. P. Muir. The meeting was finally adjourned at a late hour until Thursday, June 18, when the following communications are expected:—"On Isodinaphthyl," by W. Smith; "Communication from the Laboratory of the London Institution," by G. Armstrong; "On the Products of the Decomposition of Castor Oil"—No. III. "On the Decomposition by Excess of Alkaline Hydrate," by E. Neison; "On the Restoration of Burut Steel," by J. L. Davies; "On Hydrogen Persulphide," by William Ramsay; "On Suberone," by Dr. Schorlemmer; "On the Action of Nitrosyl Chloride," by W. A. Tilden; "On a New Apparatus for Determining Carbonic Anhydride and Moisture;" "Apparatus for Determination of Ozone in Presence of Chlorine and Hyponitrous Acid;" "Constitution of Urea," by Dr. Tommasi.

IN ADDITION to Sir Garnet Wolseley's testimony as to the usefulness of the Silicated Carbon Filters during the Ashantee War, the company has lately received the following opinion from the Hon. S. Mostyn, C.B., Colonel of the 23rd Royal Welsh Fusiliers:—"The Silicated Carbon Filters supplied to the battalion under my command whilst on the Gold Coast, were in my opinion most excellent. They quite answered all purposes for which they were intended, and were the best of all the various patterns of filters that I saw in use on the coast, being less liable to clog from dirty water and very easily cleaned."



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J. ALFRED WANKLYN, M.R.C.S., London,
Formerly Professor of Chemistry in the London Institution;
Joint Author of a Book on Water Analysis, and of the
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THE ADULTERATION ACT UNDER SCRUTINY.

THE Parliamentary Committee which has been appointed to investigate the complaints in respect to the Adulteration Act is doing its work very completely and honestly; and we have great confidence that the enquiry will bring about a more reasonable consideration for the possibilities of the retail trader than is indicated by the Act as it at present stands. The examination of the grievances of chemists and druggists occupied rather less than one day; but it may be, we think, assumed that sufficient was placed before the Committee to satisfy the members that the position of pharmacutists in relation to adulteration was somewhat peculiar. The President's remark, that it appeared as if chemists had been rather frightened than hurt, was a shrewd approach to accuracy; but although that may be very readily granted, it by no means reduces the grievance. There should be a strong basis of reason before a government commences to frighten an entire trade, and if it happens that chemists are not able to point to such a long list of casualties as grocers can, this only proves to that extent how little necessary the Act has been as far as drugs were concerned.

From the interrogation which Mr. Muntz applied to certain of the witnesses we get a clue to the state of mind out of which an Act like this, brimful of the wildest injustice, has been evolved. Evidently Mr. Muntz is one of that class of keen sceptics who have an enormous capacity of belief. He has no faith in the general honesty of tradesmen; he has made "tricks of trade" a study; he would criticise minutely the simplest statement of a shopkeeper behind his counter, but would assimilate with eager avidity the most extraordinary canards which might tend to the support of his favourite theory of general trading depravity. What, for instance, can we say to that curious fable, which, however, it is evident Mr. Muntz religiously believes, about the existence of certain "manufactories of medicines," somewhere in the provinces, where all medicinal articles can be bought in three grades. The best, at list prices, for London; 25 per cent. off for the country; and 50 per cent. off for export. The novelty of the discovery was such that the witnesses to whom these questions were put apparently hardly comprehended them, and Mr. Muntz left off with a self-satisfied assurance of his own superior sagacity.

The peculiar position of druggists in respect to the Adulteration Act lies in this, that a strict interpretation of its provisions would completely stop the drug trade. A chemist quite free

om revolutionary tendencies must needs offend this limb of the majesty of the law a dozen times a day. As Mr. Carteighe put it, the Act assumes that there is such a thing as *absolute purity*, a standard which perhaps no drug can ever realise. It is true that hitherto this strict interpretation has not been insisted upon in regard to drugs and chemicals; but analysts have sufficiently manifested their tendency to "strain the Act," as Sir Henry Peek laconically expressed it, "in order to show themselves exceedingly clever fellows," as to strike a not unreasonable terror into the minds of others besides evil-doers.

The Committee, fortunately for trading interests, includes several gentlemen well endowed with practical knowledge and sound common sense. The President, Mr. Claro Read, showed by his questions and comments a ready appreciation of the points presented to him. Sir Henry Peek, Mr. Colman, and Mr. Mundella, too, are gentlemen who may be trusted to use their best endeavours to check the blind, reckless, all-round fitting which has hitherto characterised the operation of this unconstitutional Act. We say unconstitutional because, avowedly, the principle of the Act is to punish a number of comparatively innocent people in the hope that now and then a really guilty one may be struck. Surely such a course is not in accordance with the general system of English law, as we have been accustomed to regard it.

With respect to the remedies indicated and suggested, the one that comes to the surface most frequently is the appointment of one or many central Boards of Referees. Sir Henry Peek seems inclined to propose the Government laboratory at Somerset House, either for London or for the whole country. He would make some modification in its constitution, and he carefully endeavoured to elicit the general opinion of witnesses on this subject. As far as appears at present, this Board of Referees would be consulted as to the advisability of projected prosecutions—would serve as a sort of grand jury, in fact. The advantage of having some one in that position possessing the requisite technical knowledge is obvious; but a very serious objection to such boards lies in this, that, practically, they would usurp the office of the magistrate. The latter would be little better than a nominal functionary, for he would seldom care to reverse the decision of the boards on matters respecting which he was professedly ignorant and they professedly expert. The ultimate result of such an arrangement would be that the member of the board appointed for his technical knowledge would become really the judge—and, more, would become, in fact, the law itself; for the suggestion assumes that the Act must be left with an alarming margin of vagueness. This proposition, although it appeared welcome to most of the witnesses, seems to us to include certain germs of danger which must necessarily co-exist with it.

Mr. Sandford boldly urged that drugs should be ignored by the Act altogether, and he made out a strong enough case. He would leave the prosecution of adulterating druggists to the Pharmaceutical Society, which already possesses the necessary powers. This idea is a tempting one, but it does not improve under inspection. The fact that the Society has so long held the power, but has never exercised it, will not tell in its favour; and we may be quite certain that the House of Commons will never entrust the prosecution of any body to itself without exacting rigorous guarantees that such prosecution shall be carried out faithfully and thoroughly. Such a course would be entirely foreign to the understood objects of the Society, and the odium which would be all it would gain from its new duties would very likely ruin it.

The remark of Mr. Muntz as to the "officiousness of newly-appointed analysts," and that of Sir Henry Peek, which we have already quoted, as to the analysts who are determined to show themselves as very clever fellows, indicate that both these members have recognised the rock on which the Adulteration

Act has split. The chief thing to do in order to get a useful workable piece of legislation is to remove the temptation which is now offered to chemists of advertising themselves by means of prosecutions. The analysts in many cases have looked upon this act as a special providence for them, and they have helped themselves with a greediness which has amply demonstrated their unfitness for positions in which discretion would have been far better than valour. The only way of remedying this defect would appear to be the deposition of the present race of analysts. If impersonal boards were substituted, to whom the advertisements could be of no service, a great step would be taken towards a more just execution of the law. The establishment of a certain number of central district boards, composed somewhat in the manner suggested for the Boards of Referees, would answer the purpose. Let these be charged with the duty, not of pronouncing on the merits of a case, but of actually prosecuting, and their position before the magistrate would be materially altered. It would be a strange thing, too, if a few such central boards could not be further utilised as schools of technical and scientific instruction. There is one other very important rectification which the Act requires, and that is provision for a proper recompense of defendants who gain a verdict. The Midland Counties Chemists' Association has advocated that the verdict should be advertised at the expense of the prosecution—a very ingenious suggestion. But whether this be adopted or not the amended Act ought to be very explicit in granting to a victorious defendant the full costs of a fair defence. It is a palpably monstrous piece of injustice that a court of law should pronounce a man innocent and saddle him with fifty or a hundred pounds expense, without which he would have had no chance of establishing his reputation. We hope this point is too obvious to be passed by.

THE PHARMACEUTICAL CONFERENCE.

THE arrangements for the reception of the British Pharmaceutical Conference in London next August have not yet been made public, but we believe enough has been settled to enable us fairly to sketch out the programme. The meetings are to be held on Thursday and Friday, August 6 and 7. On the Wednesday, the evening preceding the official opening, the Pharmaceutical Society will invite the members of the Conference to a *conversazione* at their house in Bloomsbury Square, where it is hoped a handsome exhibition of goods pertaining to pharmacy will be on show, and will remain open during the remaining days. We may, in passing, commend this exhibition to the notice of manufacturing firms, and proprietors of novelties connected with the trade who want an excellent advertisement. If their goods are accepted they will have to pay nothing but the cost of transit, and they will be sure of securing the attention of some of the best pharmacists in England. The committee will be glad to receive exhibits of interesting articles from France, Germany, America, &c. During the two days of the meeting a light luncheon will be provided at the rooms with the especial object of keeping members of the Conference at their work during the morning and afternoon sittings. On the Thursday evening it is thought that an opportunity should be offered for all the members to dine together. The Friday evening will be left blank, and the Saturday will be devoted to an excursion in which the banks of the Thames will be the chief attraction. The goal suggested is, we believe, Maidenhead Bridge. Although London in August is hardly a tempting prospect for intending tourists, we hope the charms of pharmaceutical research will tempt a goodly number of our provincial and foreign friends to visit us during those few days.



THE BEDFORD PHARMACY PRIZE.

We have received the following from Professor Bedford:—

The Prize of Parrish's "Practical Pharmacy" is awarded to JAMES B. L. MACKAY, 19 Church Street, Inverness, Scotland, he having received 187 out of 200. The next highest is C. A. Smith, Leeds, who reached 184; and third is John Abernethy, Belfast, who received 182.

H. J. J., Bridlington Quay	178
J. W., Longton, Staffordshire	178
A. W., High Street, Winchester	178
W. H. J., Halifax	177
D. L. A., Belfast, Ireland	176
No name or memoranda attached	176
A. E. E., South Norwood	171
F. F., Dublin, Ireland	167
A. J. C., Westminster, London	164
T. G., Brighton	162
W. E. S., Tunbridge Wells	158
W. A. W., Birmingham	157
G. C. D. (Labor omnia vincit)	155
A. R. L., South Kensington, London	149
C. E. L., Worcester	143
J. H., West Hartlepool, Durham	132
W. A., Barnstaple, Devonshire	130
F. R. J., Mansfield, Nottinghamshire	128
W. R., Havant	124
C. C., Glasgow	118
W. C., Whitechapel, London	113
E. J. H. T., London	103
G. D. G., Faversham, Kent	71
G. D., Sherburn, Yorkshire	70

In estimating the value of the answers, the same rule was used as in our College of Pharmacy. Perfect answers were awarded 5 or 10, and lower according to their value. The highest number that could be attained was 200.

The number of closely written pages which were forwarded to me by the above parties was 293, so it has been a severe tax upon my time.

My duties have given me but little opportunity to re-examine the replies, in order that some comment might be offered. I will, however, with the permission of the Editor, avail myself of this privilege next month.

The copy of Parrish's "Pharmacy" has been forwarded to the Office of THE CHEMIST AND DRUGGIST, and will be afterwards sent to Mr. J. B. L. Mackay's address.

P. W. BEDFORD.

THE ELECTION OF COUNCIL.

The following table shows the result of the voting for members of the Pharmaceutical Council:—

Hills	1047	Owen	502
Sandford	1018	Baldon	405
Schacht	1010	Atkins	391
Mackay	994	Stacey	383
Bottle	976	Preston	333
Stoddart	857	Chipperfield	320
Sutton	835	Freeman	278
Frazer	813	Baldoek	260
Robbins	796	Thomas	256
Williams	778	Turner	241
Hampson	762	Fowler	236
Shaw	661	Broad	198
Rimington	499	Bower	175

Mr. Rimington, of Bradford, is, therefore, the only new member. The total number of voting papers sent in was 1,166, of which 92 were for various reasons disallowed.

THE BENEVOLENT FUND.

We perfectly agree with Mr. Sandford that if the vote of the annual meeting had been taken on the question of the new proposals respecting the Benevolent Fund that vote would have been decidedly adverse to the proposition. But we are equally satisfied that the Council, in acting on its own judgment in the matter, and resolving to extend the area of its benevolence, has

acted wisely and safely. The departure from the strict path of financial regularity which has been decided on is by no means such a reckless course of action as some have represented, and assuredly if the members at the annual meeting were, as Mr. Sandford asserts, almost unanimous in their condemnation of the proposal, it must have been from some reason besides that of financial security. The Benevolent Fund of the Pharmaceutical Society has now an invested capital of 14,000*l.*, the interest of which is rather more than sufficient to pay 14 annuities of 30*l.* each. By subscriptions and donations the fund also receives some 600*l.* or 700*l.* per annum, a portion of which is given away in casual relief. The desire is to give more than 14 annuities; that is to depend, in fact, on this annual income. But certain members of the Council have urged that such a principle would be most unsafe to introduce, especially on the ground that annuitants should feel that the income that has been awarded them should be absolutely certain. Now the collapse of the British Government would effectually extinguish the security on which these annuitants depend—but such a supposition would be regarded as absurd; surely it is no more so than the assumption that some of the annuitants will live for ever, and that subscriptions will entirely cease, which must be made before we need fear the result suggested. According to all mortality statistics there is abundance of money to pay off all those at present on the list, even in case of no more subscriptions coming in. The worst that could happen would be a slight depreciation of the capital. Is it not well, therefore, to do the best that can be done with the money as it comes in, rather than pile up a swollen fund for future generations, which may, or may not, be spent in accordance with the charitable wishes of the donors.

POULTICING BY STEAM.

A FEW evenings ago Dr. Horace Dobell gave an elegant "library party" at his residence in Harley Street, to which he invited a number of pharmacologists, as well as members of the medical profession. Besides the opportunity for social intercourse thus provided, a number of objects of interest were displayed by some of the chief surgical instrument makers, opticians, and others. Some fine microscopes, with anatomical objects, were shown by Ross; Negretti & Zambra exhibited a registering thermometer, by which the heat at any hour of the day or night could be ascertained; Mr. Sowerby, of the Royal Botanic Gardens, sent some specimens of the *Eucalyptus globulus*; Messrs. Hearon, Squire & Francis, and P. and P. W. Squire, illustrated the Pharmacopœia Appendix; Mr. Hampson tempted the company with sugar-coated pills; and Mr. Cooper with effervescent lozenges. But the most interesting and abundant exhibition was made by Messrs. S. Maw, Son & Thompson, and prominent in their display was a new system of poulticing by steam, which has been contrived by Dr. Dobell himself. This was shown by a dummy figure, which was kept poulticed on various parts of its patient body throughout the evening. The poultices are of various shapes, according to the part of the body for which they are intended. They consist of vulcanised rubber bags, covered with felt, to either side of which is attached a tube for the ingress and egress of the steam. This tube may be supplied from a tea-kettle, or from an apparatus especially constructed for the purpose, which should be heated on a gas-stove in order to regulate the temperature. Of course, it will be observed that the great advantage of these poultices is that a regular heat can be maintained for hours if necessary. It is a dry heat, but moisture can quite easily be adopted if required by keeping damp cloths under the bag, or by simply wetting the bag itself and covering with a cloth to prevent evaporation. The damp application will thus, in like manner, be kept at an even temperature. It is due to Dr. Dobell to add that (in accordance with his invariable rule in regard to medical inventions) he has no

niary interest in this invention, and in order that the price be kept low, and the general utility thus increased, he has peculiarly requested that it may not be patented.

A HUNDRED YEARS AGO.

American chemist (Dr. Carriugton Bolton, of Columbia College), agitates for "a chemical centennial" this year, mainly in honour of the fact that Priestley discovered oxygen in 1774. Of course it was that discovery which upset the phlogiston theory, and gave the science of chemistry a new departure. Dr. Bolton does not however depend on oxygen alone; he points out further that in 1774 Scheele first isolated chlorine, recognised baryta as an independent earth, and published his essay on manganese; Lavoisier was engaged in an investigation of the cause of the increase in weight of tin when calcined in close vessels, a research leading to the most important discoveries; Berzelius proved alkalies to be true natural constituents of plants; Berthollet described an improved method of preparing sulphuric acid; Bergmann showed the presence of carbonic acid in lead carbonate; and Comus reduced the "calces" of the six metals by means of the electric spark, before an astonished and delighted audience of savants. Of that magnificent series of scientific achievements all pale as to the magnitude of their results before the brilliant discovery of our own countryman. If any dinners or public like celebrations take place, oxygen must be, *par excellence*, the guest of the evening; and we can easily conceive the fertility of the subject in the development of an abundant flow of chemical eloquence.

F.R.S.

MR. ELIOT HOWARD and Mr. Henry Bowman Brady are on the list of elected candidates to be enrolled as members of this honourable fellowship. Heartily we congratulate them on the well-merited distinction; more on this account do we congratulate the Pharmaceutical Society, which they both adorn. Mr. Howard is distinguished beyond his immediate sphere for his researches in natural science, the published results of which are not the less remarkable for the delicate beauty of their illustrations, traced by his own pencil. The name of Mr. Howard is inseparably connected with his life-long investigations respecting the identification and the chemistry of the Cinchonas.

LEAD AGAIN.

A chemist should turn theologian and be called upon to describe heaven, he would probably assert that "there is lead there." This metal seems to be the one alloy of earthly happiness. We reported last month how an English chemist thought he had found it in aerated waters, and now we read that a Frenchman has established its frequent existence in wines. He says it gets there from the shot employed in cleaning out empty wine bottles, which leave behind a film adhering very firmly to the glass, and which can only be removed by the application of an acid. Wines slightly acid therefore readily become impregnated with the metal. M. Fordos, an ingenious inventor of this new sensation, urges the employment of shot made of iron instead of lead, by which he would hope to invigorate wine drinkers rather than poison them.

THE BAZAAR OF THE HOMOEOPATHIC HOSPITAL.

WHILE we write this bazaar is proceeding, and promises to be very successful. The committee hope to benefit the funds by upwards of two thousand pounds. On Thursday the Princess of Wales, accompanied by the Duke and Duchess of Edinburgh, visited the bazaar (which, by the permission of Colonel Baillie, is held in the Riding School, Hyde Park), and made a considerable stay, making purchases at the stalls of those whom she recognised. Pictures valued at 500*l.*, and a silver vase valued at 150*l.*, are amongst the articles offered.

Provincial Reports.

MANCHESTER CHEMISTS AND DRUGGISTS' ASSOCIATION.

THE Council of this Association met on Monday evening, June 8, to distribute the prizes awarded by Mr. Siebold in the Chemistry, Materia Medica, and Botany Classes. Mr. W. Wilkinson, Vice-President, occupied the chair.

The following particulars of attendance, &c., at the lectures, were supplied by Mr. Siebold:—

Chemistry.—Number of lectures delivered, 33; number of entries, 21; average attendance, 17.

Materia Medica.—Number of lectures delivered, 27; number of entries, 19; average attendance, 16.

Botany.—Number of lectures delivered, 20; number of entries, 23; average attendance, 19.

The prizes had been awarded as follow:—

Chemistry.—First prize, Mr. W. Naylor; second, Mr. Unsworth.

Materia Medica.—First prize, Mr. C. W. Jones; second, Mr. J. A. Maxwell.

Botany.—First prize, Mr. Naylor; second, Mr. Charles H. Hurst.

The following written questions constituted the examination. The answers had been on the whole very correct:—

Chemistry.

1. Calculate in what proportion by volume NO and O must be mixed in order to form pure N₂O₃.
2. State how the carbonates of zinc, lead, and bismuth may be distinguished by tests.
3. Find the vapour densities of iodine, mercury, arsenious anhydride, phosphorus, alcohol, ether, and chloroform. Atomic weights:—I=127, Hg=200, As=75, P=31, C=12.
4. State how you would convert metallic mercury into white precipitate, and explain the change by equations.
5. How is glycerine obtained?
6. Explain how pure nitrate of silver may be made from impure silver, such as coin.
7. Write down the symbols for the following compounds:—Sodium phosphate, sodium pyrophosphate, calcium hypophosphite, ferrous arseniate, potassium bichromate, borax, starch, ferric phosphate, amyl alcohol, chloral hydrate, pyroxylin, platinum, perchloride, gallic acid.
8. How much oxide of bismuth is obtainable from 1,000 grains of the subnitrate. Atomic weight of Bi=210.
9. What effect does chlorine produce upon acidium sulphuric acid?
10. How may bromide of ammonium be prepared from bromide of potassium?

Materia Medica.

1. A mixture of 20 vegetable drugs is handed to you for examination. Name the substances it contains.
2. Name the botanical sources, natural orders, and habitats of the following substances:—Elemi, Hemidesmi radix, Oleum Cajuputi, Quassia, Cusco, Ergota, and Matico folia.
3. How would you distinguish creosote from carbolic acid?
4. State the distinguishing characters of Cusparia bark and the bark of Strychnos nux vomica.
5. How would you detect potato starch and wheat starch, or other common kinds of starch, in arrowroot.
6. Give short descriptions of true Vera Cruz jalap and true ipecacuanha.
7. How is elaterium tested for adulterations.

Botany.

1. Define the terms "runner," "offset," "stolon," and "sucker."
2. Describe the transverse section of a tree fern.
3. Give definitions of a panicle and a cyme.
4. Explain the modes in which anthers may be attached to the filaments.
5. What is a perianth?
6. Define a capsule, a legume, and a pome.
7. Give a short description of the stem, leaves, and flowers of Conium maculatum.

MIDLAND COUNTIES CHEMISTS' ASSOCIATION.

The annual meeting of the members of this Association was held on the 29th ult., at the Great Western Hotel, Birmingham. In the absence of the President (Mr. Grioves), Mr. William Southall (Southall, Son & Dymond) was called upon to take the chair. The Secretary read the annual report, in which reference was made to two important pieces of legislation, and on which discussion was invited, viz., the Adulteration of Food, Drink and Drugs Act, and the Jurors Bill. This latter, if passed, would exempt chemists and druggists as well as pharmaceutical chemists from serving on juries. The loss sustained by the Association through the death of Mr. Dymond was alluded to. The statement of accounts showed the receipts for the year, amounting to 65*l.* 2*s.* 5*d.*, which the expenditure exceeded by 4*l.* 9*s.* 10*d.* Mr. Barclay, of the firm of Southall, Son & Dymond, was elected President of the Association for the ensuing year, and Mr. W. Jones, Hon. Secretary. The newly elected President opened a discussion on the Adulteration Act, and while admitting the utility of such an Act, he argued that in some directions it was working very unjustly, and as illustrations he instanced the prosecutions relating to citrate of magnesia, spirit of nitre, arrowroot, milk of sulphur, scammony, essence of lemon and gum benzoïn. He moved that the Chairman should, on the part of the meeting, sign the following memorial to her Majesty's Government, and that Mr. P. H. Muntz should be requested to present it:—

"Inasmuch as the Adulteration Act has been found to be in some cases oppressive in its operation, your memorialists, the members of the Midland Counties Chemists' Association, beg to lay the following suggestions before the committee now inquiring into the Adulteration Act: (1) That in all cases the persons buying goods for analysis should divide the article into two portions, and hand over one portion, under seal, to the vendor for independent analysis; (2) That referees should be appointed by the Government, and that one of them should be a pharmaceutical chemist; (3) That in the case of an analyst reporting that an article is adulterated which shall be proved to be genuine, the prosecutors shall be compelled to advertise the verdict in the newspapers of the district, so that honest dealers' reputations should be protected; (4) That guilty knowledge should be necessary to constitute an offence under the Act; (5) As it appears from the reports of the examiners in committee that the members have an erroneous idea of the capability and respectability of the chemists in the country as compared with those in London, your memorialists suggest that one or more country druggists should be examined before the Committee of the House of Commons."

The resolution was seconded and carried unanimously, and the proceedings shortly afterwards terminated.

IRELAND.

THE FIRST STEP IN PARLIAMENT.

MR. GEORGE ERRINGTON has given notice that he will ask for an order from the House for the following papers:—

"Returns stating the nature and duration of the course of study, and other qualifications, if any, required by the Society of Apothecaries in Ireland from applicants for a license to sell drugs and compound prescriptions in Ireland.

"The number of licenses so granted since the present scheme of study and examination was adopted, stating in what year it was adopted.

"The number of prosecutions for selling drugs and compounding prescriptions without license during the five years previous to the adoption of the present scheme of study and examination, and from the date of the adoption of the present scheme to the present time respectively.

"The nature and duration of course of study, and other qualification, if any, required by the Pharmaceutical Society of Great Britain from applicants for certificate to exercise the business of pharmaceutical chemist.

"The number of certificates so granted from the 1st day of January 1864 to the 1st day of January 1869; and from the 1st day of January 1869 to the 1st day of January 1874, respectively.

"And the number of prosecutions instituted by the Pharmaceutical Society for exercising the business of pharmaceutical

chemist in Great Britain without a certificate during the above periods."

The *Medical Press* explains that the intention of demanding these returns is obviously to afford evidence that the curriculum of the Irish Apothecaries' Hall has brought the licenses of the Hall into complete disuse, and to institute a comparison between the qualifying work done by the Pharmaceutical Society in comparison to that of the Hall. And our contemporary adds:—About two years ago a return obtained on the motion of Sir John Gray showed that the net annual income of the Hall from licensing was, at 10*s.* per licentiate, 10*l.*; and we suspect Mr. Errington's returns will make it evident that even this income has not been maintained. The directors are, meanwhile, making frantic endeavours to arrive at a compromise with the chemists and druggists, while the College of Physicians has every reason to believe that its Pharmacy Act Extension Bill will receive unanimous support.

THE RIVAL BILLS.

THE Registrar of the Irish College of Physicians has officially replied to the communication addressed to that body by Dr. Leet, as secretary to the Apothecaries' Hall of Ireland, which we published last month.

Referring to Dr. Leet's remark that Parliament had already rejected a proposal to extend the Pharmacy Act to Ireland, the Registrar replies by quoting at some length from the debate on that bill when it was brought forward in 1868, in order to show that the introduction of that Act to Ireland was only postponed, not rejected.

The Registrar then discusses Dr. Leet's objections, *seriatim*, thus:—

First Objection.—"It would deprive the Apothecaries' Company of their rightful control over pharmacy, and prove very injurious to the public."

Reply.—The College is of opinion that the control exercised under existing laws by the Apothecaries' Hall of Ireland is not a justifiable or "rightful control," and has not been beneficial to the public. (See "Observations on the proposed Bill to Amend the Laws affecting the Practice of Pharmacy in Ireland," sent herewith).

Second Objection.—"It would entitle physicians and surgeons to keep shops for compounding and dispensing medicine, without the possession of the necessary skill and knowledge."

Reply.—The proposed bill does not confer any such power on physicians and surgeons as such. Section 1 of 32 & 33 Vict., c. xvii., August 11, 1869, merely protects from penalties such "legally qualified practitioners" as "shall have passed an examination in pharmacy."

Third Objection.—"It would introduce into Ireland a number of English 'Chemists and Druggists,' who have found a place on the register, without having undergone the course of study or the examination required under the Pharmacy Acts."

Reply.—The Bill would only introduce into Ireland such "Chemists and Druggists" as are on the register of the Pharmaceutical Society of Great Britain, and entitled by law to practise pharmacy in Great Britain.

Fourth Objection.—"It would be difficult, if not impossible, for the public to distinguish the English 'Chemist and Druggist' from the unlicensed Irish 'Chemist and Druggist.'"

Reply.—There can be no difficulty in making the distinction. The Apothecaries' Hall of Ireland, and the Pharmaceutical Society, would have full power to prosecute and punish any one compounding medicine without being duly licensed by either body, and their respective registers would at once afford the information necessary for the distinction.

Fifth Objection.—"It makes no provision that candidates for the pharmacy license shall devote any time to acquiring a knowledge of practical pharmacy by a fixed term of apprenticeship or pupilage."

Reply.—The Pharmaceutical Society, under its Acts, requires courses of study, and carries out a very searching examination in practical pharmacy. It was not necessary to go into those details, as they were already provided for.

Sixth Objection.—"It sanctions the system of centralisation by compelling Irish pharmaceutical students to go to England for their examination and qualification."

Reply.—It would not compel Irish pharmaceutical students to go to England for their examination and qualification; for, if necessary, the Pharmaceutical Society of Great Britain could ap-

a Board of Examiners in Ireland, as it has already appointed a Board of Examiners in Scotland, to examine candidates in that part of the United Kingdom; but this step would appear to be unnecessary in regard to Ireland, as the power of the Apothecaries' Hall of Ireland to examine and issue licenses in pharmacy is not interfered with in the Bill proposed by the College.

In conclusion, I am directed to observe that the College must decline to accede to your request to withdraw their Bill, or to support the Bill prompted by the Apothecaries' Hall of Ireland.

THE APOTHECARIES AND THE DRUGGISTS.

The Chemists and Druggists' Society of Ireland, at their last meeting received a letter from the Apothecaries' Company, inviting a deputation from the Society to discuss the Bill proposed by the Hall. Messrs. W. Allen, J. T. Holmes, J. O'Brien, and S. Oldham were appointed as a deputation. They had an interview with the Court of Apothecaries' Hall on Friday, the 14th inst.

The points urged by the druggists were:—(1) Mixed examination; (2) All engaged five years at the business (not on their own account) to be allowed modified examination; (3) Inclusion of poisons clause of Pharmacy Act.

All these suggestions were adopted by the Hall, and the amendments to the Apothecaries' Bill suggested by the Chemists and Druggists' Society were accepted, with only a few verbal alterations. The utmost cordiality was manifested between the Apothecaries and the druggists, and the former signified their intention to push forward their Bill this session.



GREEN TEA.

BIRKENHEAD grocer had been convicted by the local magistrates for selling green tea "adulterated with gypsum and Prussian blue." He appealed to the Court of Queen's Bench, and the case was tried on May 30. His case was that this "tinting" was the universal characteristic of Chinese green teas. Lord Chief Justice, Mr. Justice Blackburn, and Mr. Justice Stirling, however, considered it to be unquestionably an alteration, and even if it were notorious in "the trade" it was not generally known to the public. Mr. Justice Stirling differed from the rest of the judges, and thought the case was not one that should come under the Adulteration Act. The conviction was confirmed, but it is satisfactory to know that there is one judge who cannot appreciate the justice of trying to stamp out frauds by crushing small shopkeepers.

ASSISTANTISM.

At the Dunstable County Court, on May 28, Mr. Henry Staffell, chemist's assistant, summoned Mr. T. G. B. Clarke, chemist, of that town, for the sum of 7*l.* 8*s.* 5*d.*, which included 3*l.* 6*s.* 8*d.* for a month's salary, the balance being for some sauce and perfumes alleged to have been supplied by plaintiff to defendant. The reason which had induced Mr. Clarke to engage the plaintiff was that he knew him as an "active teetotaler," but it did not appear from the evidence that either activity or teetotalism were strong points in Mr. Staffell's character. On one occasion defendant asked Staffell, who was upstairs in his own room, to come down and mind the shop, and plaintiff replied he was not going to be treated like a school-boy; he always had had his hour after dinner and always should. On Monday, May 14, in the middle of dinner, plaintiff said, "You will excuse me, I must go and have a whiff or two; will you look after the shop a little while?" That was at twenty minutes past one o'clock. On sending for him at 6:30 he was induced to return, but in an

unfit state to mix drugs or to serve medicine; he stumbled and could not stand; he could not articulate plainly, and he went into the sitting-room. Plaintiff said he had had some coffee and three or four glasses of port wine. The next morning he was discharged, salary being paid to date. As to the goods, defendant said he understood them to be on sale or return: all that had been used was some of "Staffell's Sauce," which plaintiff himself took with dinner. After hearing corroborative evidence, the judge said the dismissal was most reasonable, and the verdict must be for defendant, with costs.

LIBEL.

MR. THOMAS KNOWLES, chemist, of Seymour Street, London, appeared at the Clerkenwell Police Court on May 30, charged with the issue of a libel against a bookseller, of High Street, Camden Town. There was also a cross summons for an assault. The magistrate having heard a part of the case, secured a promise from the defendant that the whole quarrel should end, and dismissed the summonses.

THE SISTER PROFESSIONS.

MR. WM. FOLLOWS, a chemist and druggist, of Wolverhampton, having obtained an American diploma, saw no reason why he should not use it. Accordingly, one fine morning, the sun shone on a bright new brass plate on his door, on which was engraved the inscription:—"Dr. W. Follows, Member of the Medical College of Philadelphia." This assumption of a valuable title, which might lead to business, lacerated the righteous soul of a certain Dr. Freeman to such an extent that he summoned Mr. Follows before the stipendiary. Mr. Follows explained that he had obtained his diploma by passing an examination in London, and his counsel insisted that the description of "Member of the Medical College of Philadelphia" exonerated his client from any attempt at fraud. The magistrate, however, characterised the use of the title as a gross attempt to deceive the public, but dismissed the summons on condition that the defendant should pay the costs and undertake not to practise as a physician. [A letter from the defendant in this case will be found in our correspondence columns.]

YORKSHIRE RELISH.

AT the Mansion House, on June 6, before Sir R. Carden, Messrs. Prendergast and Irish, carrying on business as the Universal Sauce and Condiment Company, were charged under the "Merchandise Marks Act" with counterfeiting the labels, &c., of "Yorkshire Relish," the well-known sauce introduced by Messrs. Goodall, Backhouse & Co., of Leeds. Mr. J. Seymour Salaman prosecuted; Mr. Moutagu Williams was counsel for the defendants.

Mr. William Powell, a partner in the firm of Goodall, Backhouse & Co., deposed that they had been established 18 or 20 years, and were the manufacturers of the sauce called "The Celebrated Yorkshire Relish." The label was their design, and as such they claimed the whole of it. They registered it at Stationers' Hall many years ago, and they had used the same label 10 or 12 years exclusively.

The genuine and the alleged counterfeit labels were produced in court.

Evidence was given to prove the purchase at the defendants' premises of some of the counterfeit article, and that in one case the counterfeit label had been placed on a bottle of complainants.

Mr. Salaman now stated that since the adjournment Mr. Brown, the defendants' solicitor, had furnished a list of the quantities supplied to their various customers, from which it appeared that a little over 10 gross of the counterfeit sauce had been sold by them, and they had given up the remainder of the counterfeit labels, and would get back the bottles from their customers as soon as they could for destruction. The defendants, moreover, had paid 22*l.*, part of the costs of the prosecution, and had consented to the terms of the arrangement being advertised at their expense.

Sir Robert Carden was not satisfied at first with that, and said the defendants ought to be punished as well. It was explained, however, that the case could be dealt with summarily, without going before a jury. Upon that the defendants pleaded guilty, and the Alderman fined them 10*l.* each, which he afterwards reduced to 5*l.* each, in consideration of their having paid upwards of 20*l.* in costs.

The defendants paid the money.



BANKRUPTS.

BLANKLEY, WILLIAM HENRY, Gainsborough, Lincolnshire, chemist. May 22.

GRIEVE, JOHN B., English Street, Carlisle, chemist, and soda-water manufacturer. May 16.

LIQUIDATIONS.

BIRCHALL, SAMUEL, Leeds, chemist's assistant. May 21.

COATES, FREDERICK THOMAS, 201 Easton Road, surgeon. May 21.

DAVIS, JOHN MORGAN, Penge Park, Penge, and The Green, Leyton, chemist. May 14.

PARKINS, THOMAS, Robert Town, Birstal, manufacturing chemist. May 11.

VAN GELDEREN, JACQUES, Middlesborongb, surgeon-dentist. May 19.

WOODWARD, EDWARD, 84 Aston Street, Birmingham, chemist. May 19.



[The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Finsbury, London; 10 Rue de la Fidélité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

1398. E. Hart, of Queen Anne Street, Marylebone. New or improved means or agents for disinfecting and deodorising purposes. Dated April 22, 1874.

1415. W. R. Lake, of London. An improved method of, and apparatus for, the deodorisation and utilisation of sewage. Dated April 23, 1874.

1428. E. Budde, of Auteuil, Paris. A new process for preserving eggs, by means of the carbonic anhydride and alkaline silicates. Dated April 24, 1874.

1469. C. Stevenson, of Milngavie, Stirling, North Britain. Improved evaporating or recovering furnace or apparatus to be used for evaporating the water in soda lye or liquids containing any valuable sediment or body, so that the same may be rendered fit for being again used for manufacturing purposes. Dated April 27, 1874.

1501. J. Carriek, of George Square, Glasgow. Improvements in apparatus for respiratory and inhaling purposes. Dated April 29, 1874.

1512. W. R. Lake, of London. An improved inhaling apparatus. Dated April 30, 1874.

1529. W. McAdam, of Glasgow. Improvements in utilising waste products of chemical works for constructing bricks or blocks for building or analogous structural purposes. Dated May 1, 1874.

1532. F. Wright, of Yarm Street, Yarm Lane, Stockton-on-Tees, Durham. Improvements in, and in apparatus for, stoppering bottles for containing gaseous and aerated liquids. Dated May 1, 1874.

1583. T. Jackson, of Clayton, near Manchester. An improved method for the recovery of sulphuric acid when combined with certain chemical products. Dated May 5, 1874.

1595. A. Ara and M. Del-Bubba, both of Florence, Italy. An improved composition for preserving metals from oxydation. Dated May 6, 1874.

1607. A. Piver, of Boulevard de Strasbourg, Paris. A new process of manufacturing alcohols by a methodical and endless manner with wines and fermented juices of any kind by means of new or improved apparatus suitably disposed for the purpose. Dated May 7, 1874.

1617. J. Edwards, of New Garden Street, Hull, Yorksbire. Improvements in stoppering bottles, jars, and such like vessels, and in apparatus for filling bottles and vessels, such apparatus being specially adapted for filling same with aerated liquids. Dated May 7, 1874.

1626. D. Nicoll, of Paternoster Row. Improvements in vessels for containing aerated and other liquids. Dated May 8, 1874.

1630. H. Searle, of Hull, Yorkshire. Improvements in wrappers or envelopes used in oilcake making, and for extracting oil from oleaginous seeds. Dated May 8, 1874.

Letters Patent have been issued for the following:—

3632. A. C. Fraser, of New Barnet, and W. Watson, of Great Ayton, near Northallerton, Yorkshire. Improvements in treating and utilising sewage. Dated Nov. 7, 1873.

3654. J. Young, of Kelly, Renfrew, North Britain. Improvements in the manufacture of muriatic acid. Dated Nov. 10, 1873.

3736. W. Darlow and H. Fairfax, both of the Strand. Improvements in magneto appliances and magneto-electric apparatus for curative and other purposes. Dated Nov. 18, 1873.

3742. H. Y. D. Scott, of Ealing. Improvements in the purification of sewage water. Dated Nov. 18, 1873.

3892. E. Diver, of Caterham Valley, Surrey. Improvements in obstetric apparatus. Dated Nov. 28, 1873.

448. J. Hargreaves and T. Robinson, both of Widnes, Lancaster. Improvements in and connected with the manufacture of sulphates of soda and potassa, and in apparatus or appliances employed therein. Dated Feb. 4, 1874.

497. L. Rose, of Edinburgh. An improved stopper for bottles for containing gases or gases combined with liquids, such as aerated beverages, whereby an improved mode of filling, stoppering, and opening such bottles can be effected. Dated Feb. 7, 1874.

591. L. R. R. Comte de Beaurepaire de Louvigny, of Boulevard de Strasbourg, Paris. Improvements in purifying alcohol, and in the apparatus employed therein. Dated Feb. 17, 1874.

831. W. Hunt, of Castleford, near Normanton, Yorkshire. Improvements in the manufacture of sulphate of soda and sulphate of potash, and in apparatus used in the said manufacture. Dated March 6, 1874.

878. G. J. Hinde, of Wolverhampton, Stafford. Improvements in utilising a certain waste or residual product obtained in the manufacture of aniline dyes. Dated March 11, 1874.

Specifications published during the month:—

Postage 1d. each extra.

1873.

2944. W. Hunt. Apparatus for the manufacture of sulphate of soda, &c. 1s. 6d.

3071. P. Spence. Treating phosphates of iron and alumina. 4d.

3129. G. Mackay. Extracting and recovering oils, resins, &c. 4d.

3169. W. Whitbread. Disinfectant and oxydising agent. 4d.

3176. A. V. Newton. Colouring matters. 4d.

3187. N. Thompson. Stoppering bottles, &c. 6d.

3189. H. Sprengel. Sulphuric acid. 4d.

3190. J. H. Johnson. Producing and applying ozono. 6d.

3194. F. Wirth. Manufacturing and applying carbonic acid. 6d.

3253. H. Deacon. Manufacture of chlorine. 10d.

3336. H. Deacon. Manufacture of alkali. 10d.

3452. L. Bols, fils. Manufacture of caustic soda. 8d.

1874.

595. J. H. Johnson. Production of salicylic acid, &c. 4d.



AN EX-COUNCILLOR ON THE CIVIL SERVICE INFRINGEMENT OF THE PHARMACY ACT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I have remarked, in your Journal, on several occasions, allusions have been made to the practice of co-operative societies dispensing poisons, contrary to the Pharmacy Act of 1868; and I have noticed also that the Council of the Pharmaceutical Society have been accused of much indifference and apathy on the question. It may, perhaps, interest your readers to know that when I had the honour of a seat at the Council, I brought forward a motion substantially to bring the question to an issue in a court of law, but, unfortunately, timid members prevailed, and no member would second my proposition. I have no doubt but that, according to Sections 1, 15 and 16 of the Pharmacy Act of 1868, read in the light of the preamble, co-operative stores are acting illegally, and that the proprietors and directors are subject to the penalties mentioned in Section 15.

But supposing the Society lost its case in an action at law, this would be an advantage, inasmuch as the Council would then have to apply for further powers to prevent unqualified persons selling and compounding poisons.

Your obedient servant,

EDWARD SMITH.

P.S.—Why was not the matter mentioned at the annual meeting?

CO-OPERATIVE STORES AND THE PHARMACY ACT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Accept my thanks for the insertion of my letter in your last month's journal.

Having tacitly pledged myself to bring forward a resolution at our last annual meeting, I feel that some explanation is due to your readers for not having carried out my implied intention. In the first place, I cannot avoid referring to the very kindly manner in which I was received on that occasion by several gentlemen well known in the Council, and the great interest taken in the special object of my visit.

The object of my resolution was to urge upon the Council, assisted by a special committee, the necessity for immediate action, for the express purpose of protecting our interests, as early defined in the Pharmacy Act of 1868. I also intended seriously to animadvert upon the impropriety of those who, by the management of the advertising department of the *Pharmaceutical Journal*, permitted the insertion of those announcements referred to in my last letter.

Being impressed with the importance of the work which I desired to accomplish, I sought the counsel and assistance of those who I thought would impart a weight and influence to its discussion—in some cases by writing, in others by personal interviews; but, to my regret, I found that, while we were all agreed upon the grievance which formed the groundwork of my resolution, there was a great difference of opinion as to the manner in which I proposed to deal with it; and on the morning of the annual meeting I went to Bloomsbury Square single-handed and unaided, in the hope of finding some genial spirits and generous minds who would come forward and assist me in the work I had at heart. In this, to a certain extent, I may say I succeeded, although not as I wished; and I went into the meeting fully prepared, should an opportunity offer, to make out a good case, trusting to the righteousness of my cause to enlist sympathy and support.

I anxiously waited, while I listened to the various speakers as they dwelt upon the subject of the report then under discussion, and it was with a feeling of regret and disappointment that I watched the hands of the clock rapidly approaching to

3 p.m.; and I perceived that the opportunity for which I had so anxiously waited was passed. To have urged the subject on the meeting then would have been decidedly impolitic.

Much as I regret the failure of my purpose, I am not one whit the less impressed with the necessity of its accomplishment. Should my humble services be of any value, I shall be ready at any moment to assist others in endeavouring to put an end to one of the most unfair monopolies and dishonourable combinations that this country has ever witnessed.

I am Sir, yours obediently,

J. JOHNSON.

8 Brondesbury Terrace, Kilburn,

May 25, 1874.

AN APPEAL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Kindly permit me to appeal to your readers on behalf of the aged widow of the late Mr. John T. Newby, a chemist who died in October last, in Brunswick Street, Hackney Road. He had served a seven years' apprenticeship, and attended lectures on various subjects, and was in business as a druggist, &c., for nearly forty years, chiefly in London. As, however, he was not a member of the Pharmaceutical Society, and was not registered, his widow is not eligible for a pension or grant from the Benevolent Fund of the Pharmaceutical Society. She has no means of support, as her daughters are quite unable to render her aid, being hardly able to maintain themselves. Surely some of your readers will give something to cheer her declining years—she is nearly 70—and prevent her from starving or entering a workhouse. The Rev. Mr. Kelly, of 19 Hoxton Square, N., has kindly consented to receive subscriptions for Mrs. Newby.

I am, dear sir, yours faithfully,

W. BATHURST WOODMAN, M.D.

(Assistant Physician to the London Hospital.)

6 Christopher Street, Finsbury Square, E.C.,

June 2, 1874.

[We commend the above case to the benevolence of our readers. Any who have not had the opportunity of contributing to the funds of "Hospital Sunday" might take advantage of this occasion. The case lies just beyond the range of the Benevolent Fund, but we hope the technical difficulty will not be also a bar to what little friendly aid the trade can give this widow.—ED. C. & D.]

LEAD IN AERATED WATERS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—On page 169 of your May number I see an article controverting, on the authority of Dr. Attfield, my discovery of lead in syphons of aerated water.

The waters I examined were obtained in the first instance by a physician, and afterwards in the ordinary way from both the wholesale and retail trade.

Since I heard that Dr. Attfield questioned my results, I have gone carefully over the analyses on a more extended scale, and I am now fully convinced that my results were correct.

As the proportions of lead in these waters were minute, I had to examine and concentrate a large quantity, so as to obtain the lead in sufficient quantity for gravimetric estimation. This, however, has been done by me, and the eliminated lead freed from every trace of tin by ammonium polysulphide solution in nitric acid, &c., and it is undoubtedly lead.

I have also examined metallic syphons of various shapes—some branded with the name of a foreign firm and others without name; but I have not seen the name of Messrs. Hayward Tyler & Co. on any I have been able to obtain. I cannot, therefore, speak definitely as regards their syphon taps. Not only do metallic syphons on aerated waters differ in shape, but they also differ in composition; some of the ferrules contained only a small quantity of tin, and considerable marks of corrosion were found along the surfaces exposed to the action of the aerated fluids. In some instances a white coating of carbonate

of lead and oxide of tin had been formed inside the taps, which became detached from and was washed out of the syphon by the force of the liquid.

The composition of this white coating was ascertained by cutting open some of these taps and analysis of the corroded matter.

The following experiments were also tried with aerated waters:—

First, into three bottles of soda water containing 16 grains of the acid carbonate per pint were placed weighed globules of pure lead, tin, and tin and lead. After macerating a week (a shorter interval than many syphons are kept) these globules were taken out of the liquids and again weighed: in each instance the lead had lost weight, and the soda water into which the lead globule had been placed was darkened by sulphide of hydrogen. Secondly, a similar series of experiments with soda water containing the official quantity of acid carbonate of sodium acted more energetically on the metal globules of lead.

It is also curious that the same number of THE CHEMIST AND DRUGGIST should contain on a previous page a refutation of the assertion that lead is unattacked by aerated waters.*

Of the French chemists who have examined the contamination of water with lead, the results of MM. Balard, Bergeret, and Fourdos, apply also to the probability of lead being found in aerated waters which have been allowed to come in contact with and act on that metal.

Sir R. Christison has also shown, in the *Chemical News*, that carbonate of sodium has a solvent action on lead.

If, therefore, the inference to be drawn from the article is that aerated waters will not attack lead or its alloys, I must object to it that it is in direct opposition to the results of experimenters in this and other countries.

Whether lead in small quantities is cumulative and hurtful, or harmless, is a debatable point, and should be left to the physician, to whose province it rightly belongs.

I am, Sir, yours truly,
GEO. BROWNEN, F.C.S.

WHY THEY WILL HAVE TO SEARCH FOR ASSISTANTS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—The letter of your correspondent in search of an assistant in your April number, whose style of writing leads one to think he would have succeeded better had his talents been devoted to light literature than in a fruitless search for an assistant, and in casting a slur on as honourable and intelligent a class of young men as exist in any trade, having elicited but one squeak from the many who see no alternative but a dreary round of life behind a drug counter, till, as Mr. Searchum says in his flippant way, one Christmas night they pay their debt to *Pallida Mors*, and boxing-night finds *Dominus Magisterque* assistantless, I am urged forward to answer the question why assistants are scarce? Shall we go back to that youth of 14 summers, with his fresh complexion and health, who, in consideration for being taught the arts and mysteries of a chemist and druggist, and being treated as one of the family, has paid his 100*l.*, and is being domiciled with five others, to be set to powder and mix noxious and irritating drugs, the poisonous nature of which he is unaware of, but which, with long gas-light hours, a low and badly ventilated shop, and no fresh air except on the seventh day, lays the foundation of disease, and may be, death. Shall we unveil all that moral atmosphere of hypocrisy and cant which is included in making him one of the family?

Nay, let us leave such sickening, such soul-killing experiences; let us take this youth as a full-fledged assistant, say, at 30*l.*, 35*l.*, or 40*l.*, indoors; what does he find? Again, that conventional hypocrisy, that sticking to propriety, that servile cringing and fear of public opinion that is incompatible with true manliness of character. He finds again the ill-ventilated shop, the long gas-light hours, mayhap the microscopical scrutiny

of a Searchum or his wife, and all for what—for pay that a common mechanic would disdain to take, whilst he can have his four hours' per day in recreation and health seeking, his half-Saturday and his Sundays, whilst his sweaty brow during the day leaves his body and mind serene and fit for enjoyment.

These things are what make many a fine-spirited fellow take his flight for the land of the West, or seek some other mode of existence, or leave it may be here and there a sot depraved in mind and body, or it may be a punctilious hypocrite; but in more cases a hard-working conscientious drudge, who, if he is enabled to marry, heaven knows, has no very bright and hopeful future.

For the evil effects of our trade on the constitution look at the last remnant of a generation or two of druggists. I don't mean those of the higher class who can afford to keep their managers, &c., but of a middle class, where son has followed father for a generation or two. In my opinion, Mr. Editor, they go to prove exactly the reverse of Darwin's theory. They seem illustrations of men becoming monkeys rather than monkeys becoming men. These things make young fellows shy of continuing in a trade "highly respectable" though it may be, requiring close application, with long hours, bad smells, bad health, and humbug. I could give you the names of many I have known who have left the retail trade disgusted with it—some gone to America as farmers, some to the wholesale, some to photography, some to analytical chemistry; while yet many more, with greatly impaired health, eke out an existence in small concerns—life a burden to them.

Yours truly,
J. KUB.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I was much amused at the letter that appeared in the last edition of the CHEMIST AND DRUGGIST respecting the treatment of chemists' assistants; but it was no news to me, as I am a chemists' assistant of fourteen years' experience, and must say we are a poorly paid, overworked, ill-treated, and badly fed class of men.

I have held a situation where I could not get sufficient food to supply the demands of the inner man (not a covetous one either), and another in which, wherever I might put my hat, umbrella, or book, it was sure to be wrong, and there was bound to be a row, unless I stuffed them inside my box in my bedroom.

I once, on entering a situation, hung my overcoat on a peg for the purpose in my bedroom, but before I had been in the house twelve hours I was told to remove it, as it did not look well from the street, although I occupied a bedroom on the third floor. Yet we are expected to be gentlemen by education, appearance, and address (as you frequently see in the requirements of an advertisement for an assistant), and we are treated beneath the servants under the same roof. Cannot something be done to change our position? If it is only to shorten the hours of labour it would be one step towards it, as a chemists' assistant's hours of labour average fifteen hours daily, with alternate Sunday duty. Cannot we get the law to interfere and protect us, for I am sure we want it, and more so than those that are employed in our factories. Will not some one pity us, and try to improve our wretched and miserable lives?

One that would be anything but a

CHEMISTS' ASSISTANT.

EXAMINATIONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I quite agree with the sentiments expressed by "Spatula," and think it most unfair to use catch prescriptions and illegible writing; and more than one young man has complained to me of the unkind treatment received when passing his examination from one examiner. I can corroborate "Spatula" that some young men are asked the question "where they are prepared," which I think is most unfair. My opinion is that in all large centres of industry, such as Liverpool, Manchester, Birmingham, Leeds, &c., there should be a separate board of examiners—gentlemen who will know the requirements of their several districts. Pray, what do London chemists know about the wants of towns in Lancashire and Yorkshire? Sellers of perfumery, patent medicines, and dispensing, whose turnover will be comparatively small! But a mixed, heavy trade is a very different thing.

* See CHEMIST AND DRUGGIST for May, p. 163.

The Council have not, in my opinion, legislated for the benefit of a chemist and druggist. In passing the Poisons Bill they have hampered the trade in every possible way. Perhaps they will next legislate against the sale of razors and knives, and if a person wants to buy a rope to have it cut, he must go to a rope-maker. "Spatula," speaking about remuneration, reminds me of reading a letter of an examiner offering a young man, having passed his examination, 25*l.* a year. If this be true, it is raising the status of a chemist and druggist with a vengeance. I myself have been in business 26 years, and I know that the assistants in chemists' shops have the longest hours and are the worst paid of any class of shopkeepers. And if our rulers would only legislate for the benefit of the trade, and more especially that of the young men, the thanks of the public would be given.

I am, Sir, yours very truly,
"PLAISTER."

WHAT IS A DOCTOR?

TO THE EDITOR OF THE "CHEMIST AND DRUGGIST."

SIR,—Concerning my right to use the title of Doctor of the Medical College of Philadelphia, kindly allow me to quote the *Lancet*, September 23, 1871, page 457:—"It is a very grave question whether there is any obligation on others to give the title of Doctor when it is obtained without examination, but the possessor of the degree (M. D. Phila.), however obtained, has a right to call himself Doctor of Medicine if he pleases." Also, February 14, 1874, page 253, in reference to these diplomas the editor says, "He knows no law by which anyone can be punished unless he uses false titles." I hold the degree M.D. of Philadelphia by examination, at which examination a medical gentleman from Birmingham was present. If it is worth even less than the parchment on which it is written, I have not pretended that it was other than what it is. But, sir, similar cases to mine have been decided in various parts of the country, by possibly as able gentlemen as Mr. Spooner. Referring to the *Daily Post* of April 21, 1862 (*Re v. Grayston*, who is still practising), Mr. Kynnersley, the presiding judge, said: "Directed attention to the fact that the defendant had on his door, 'Dr. Grayston, of the Medical College of Pennsylvania,' which did not imply that he had any English qualification. He was of opinion that the description given implied that he had no English qualification, and that he had not wilfully and falsely pretended that he had. It was a very important question, which ought to be settled, and he would be willing to grant a case. As a question of fact he should decide on dismissing the case. Mr. Motteram said that as the decision was on the question of fact he did not see that it would be worth his while to apply for a case." There are the cases of Drs. Rankin of Leicester, and Blunt of Northampton, which were dismissed for the same reason. Mr. Spooner brings forward the case of Andrews, who is reported to have obtained the M.D. degree by purchase, not examination, and to have used the title of M.D. alone, thereby implying that he possessed a British degree. In this case the proceedings were by his patients, complaining of the charges which he made for professional attendance, &c., which they said were excessive. In my case, every one I have attended was perfectly satisfied with my attendance and treatment—and that is more than Mr. Freeman can say. When I called on Mr. Freeman respecting the summons, he informed me he had done what he had because I had attended a club patient of his, whom he asserted I had offered to attend at a less rate than he was having. The man was paying him 3*½**d.* per week for himself and five children. What I was supposed to have offered to attend the six for he did not say.

[Our correspondent then explains at length the accidental occasion of his having been asked to see two club patients who, he says, had sent in vain for Mr. Freeman. He proceeds:—] This is the only cause of offence that Mr. Freeman alleges against me. I have not made any strictures on his conduct, and can produce these people to prove that I spoke of him with no disrespect, as I know nothing of him at the time. I have about 50 witnesses, who were, most of them, present at the Court to

swear that I had refused to attend them since October last. I ask, is it not monstrous that I should be pounced upon by this vindictive man, who desires to raise a reputation on another's abasement? Mr. Freeman has Dr. on his door: he does not possess any degree of M.D., and not possessing the L.S.A., I am unaware that he can recover any charge he may make for a bottle of medicine, except in a surgical case, he being L.R.C.P. Edin., and M.R.C.S. Eng. He professes to use the title of Dr. by courtesy. Is courtesy law? Surely if he has a right through courtesy to style himself Dr. without the M.D. degree, I, who have an M.D. degree, have a right to call myself M.D., or Dr. of Med. Coll. Philadelphia. I was apprenticed in 1860 to an M.R.C.S., L.S.A., and M.B. Lond., and, since serving the five years, have been studying medicine and its collateral branches.

In *Lancet*, November 15, 1873, p. 716:—

"We entirely differ from Mr. Partridge on the strict letter of the law, and deny that the qualification of L.R.C.P. carries the right to use the title of Dr."

January 10, 1874, p. 76:—

"As far as we know, there is no law forbidding the use of the title of Physician by L.R.C.P.'s, as there certainly is one forbidding the title of Doctor of Medicine."

December 13, 1873, p. 865:—

"L.R.C.P. London, entitles the holder to call himself Physician, it does not entitle him to call himself Dr., which is a degree only granted by an University."

I may state that I would not have gone to the trouble of obtaining the M.D. U.S., had I been aware of the discredit in which the diploma is held by some persons, and being myself dissatisfied with it, I am about to obtain an English qualification. Although it is asserted that the Scotch have made 10,000*l.* by the sale of diplomas, still every person holding a Scotch degree does not burn what has cost him time, study, and money to obtain.

I shall be very glad, at some future time, to uphold foreign degrees, when I find such men as Huxley, and the Archbishop of Canterbury are foreign graduates, together with a list of illustrious names which would fill your paper.

I trust your readers will consider the remarks of Mr. Spooner too severe, and that the "fraud" was not so great as it might have been.

I am, Sir, yours, &c.

WM. FOLLOWS.

EAU DE COLOGNE.—Dr. Chadwick, of Boston, while lately looking through the medical pamphlets preserved in the Boston City Library, came across an advertising circular entitled "*Vertus et Effets de l'excellente Eau admirable, ou Eau de Cologne*, approuvée par la Faculté de Médecine, le 13 Janvier, 1727." From this it appears that eau de Cologne was originally concocted for a quack medicine. In the circular, which in type, paper, and language bears evidence of belonging to the last century, it is stated that this water was invented by an Italian, Signor Paul Feminis, an old distiller of Cologne. It is described as a "volatile spirit, extracted from the rarest and most delicate simples; an elixir which has the power of restoring the parts of the body that are attacked by any disease, or predisposition to the same, of fortifying and establishing their natural functions, of insinuating into them a moderate and living warmth, which, sympathising with their own, reanimates their vital forces, and aids the coctions." It seems to have been employed internally and externally, and to have been a sovereign remedy for apoplexy, paralysis, palpitation, obstructions of the liver, spleen, and kidneys, migraine, sore eyes, ringing in the ears, toothache, gout, burns, bruises, &c. The virtues for which it has since become celebrated were apparently then thought to be worthy of notice. From the history of this elixir the authors of quack medicines may, at least, learn the advantage of making them innocuous and sweet smelling; and when one thinks of the nauseous drenches and drastic combinations with which the million are now drenched by rival proprietors of pretentious nastiness, whose eloquence is not less impressive than that of Jean-Marie Farina, of Cologne, and whose "cautions" are not less solemn, it seems desirable that the old precedent should be revived. "Opopanax" is not, we believe, announced as a rival of Holloway. But if the million must be quacked, and that seems to be still their desire and their destiny, the perfumer has an obvious advantage over the apothecary, which he seems to have forgotten.—*London Medical Record*.



REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

- Attfield's "Chemistry," 2nd edition, half-price. 34/235.
 A small fire-proof chest. Chant, Langport, Somerset.
 "Pharmaceutical Journal" every week. What offers? 31/235.
 1 oz. ambergris; finest grey. Offers wanted. 95 Brunswick Road, Liverpool.
 Bentham's "British Flora." New. Uncut. 1,295 engravings. Last edition. 31s. 6d. (Published 3l. 10s.). 20/235.
 Cigar case, Maw's fig. 53, good condition; dispensing scales, tripod stand. Buck, Haverhill.
 Southall's "Materia Medica Cabinet," in good condition. Offers wanted. Hardwick, Tything, Worcester.
 Halse's 10-guinea galvanic apparatus, some of cells damaged, price 3l. 15s. Lex, 6 Abingdon Buildings, Bath.
 "Pharmaceutical Journal," 3rd series, vols. 1 and 3, 4s. 6d. each. Jenner, Bury St. Edmunds.
 A Southall's "Materia Medica Cabinet," equal to new, 15s. "Chemicus," 1 Castle Street, Reading.
 Two strong tin oil cisterns, capacity 40 to 50 gallons, 26s. each, or exchange. Stead, chemist, Lees, near Manchester.
 A number of Leemings's Essence, clean labels. Sample bottle, 15 stamps. Fortune, Anstruther.
 Ten six-pound blue shop jars, new, very cheap. G. W. Phillips, 43 Leather Lane, London, E.C.
 Evan's 25s. Materia chest, equal to new; Cooley's "Latin Grammar;" Lescher's "Modified Examination:" all for 1l. 19/235.
 Stoppered shop rounds, 32 dozen, 8s. per dozen; 20 dozen, 7s. per dozen; 6 dozen, 4s. 6d. per dozen; some with labels good. 83 Rye Lane, E.C.
 Offers wanted for third edition of Watson's "Lectures on the Principles and Practice of Physic," 2 vols.; good condition. Frederick Baker, chemist, Ottery St. Mary, Devon.
 A complete set of books for preparing for Preliminary Examination. Cost 21s. Offers wanted. J. W. D., 130 Brick Lane, Bethnal Green, London.
 Four 2-gallon pear-shape, one 2-gallon, two 1½-gallon upright, carboys, 4 half-gallon black glass stock bottles. Offers wanted. 36/235.
 1 gross pint Friedrichshall bottles, 3 gross 8-oz. stone. What offers. Also books and sundries. R. C. Mason, Bromsgrove.
 Herbarium containing the official plants and 70 others, recently mounted and never used, only 10s. 6d. M. P. S., Mr. Humphries, Garston, Liverpool.
 An outside lamp (paraffin) and iron bracket, nearly new, red, green and opaque glass. Cost 2l. 10s. What offer. Would exchange for an outside mortar, gilded, and in good condition. Allatt, Frizington.

Rotary pill machine, makes 4-grain pills in large quantities (Bushby's Patent) for sale. Wanted a 5-grain machine. T. Preston, 84 Long Lano, Smithfield.

To be sold, cheap, the first 16 volumes of the "Pharmaceutical Journal," 14 half-bound calf, two in numbers. Apply T. A., care of E. Hollier, Dudley.

"Pharmaceutical Journal" from commencement, clean and complete. Address inquiries or tenders—which may include other works, as Pereira, Bentley, Redwood, &c., recent editions—A. Z., Mr. Trippier, 79 Islington, Liverpool.

A complete set of Mr. Judd's "Notes" and Tully's "Lessons." Offers requested Southall's "Cabinet Materia Medica," 15s.; one complete set of books for passing the Preliminary, 6s. "Minor," 47 East Street, Baker Street, W.

Two flat mahogany counter cases, both 4 feet long; one has 6 squares glass, other 4; both open behind; have 2 squares on top, and shelf behind, 25s. each, both 2l. 5s. Stand for first mentioned, 5s. Sanderson, Norton, Durham.

Attfield's "Chemistry," 7s.; Royle's "Materia Medica," 7s.; Evans & Lescher's "Chemical Cabinet," 10s. 6d.; "Pharmaceutical Latin Grammar," 2s.; Staggall's "First Lines for Chemists," 1s. 6d. A. P. S., 62 Market Place, Warwick.

Bell-metal mortar and pestle, weight 32½ pounds, capacity 2 qts., 30s.; ditto without pestle, 13 lbs., nearly 3 pints, 12s. Want large marble mortar and long pestle, or anything useful to chemist. Nosworthy, Chemist, Melksham.

"Pharmaceutical Journal," complete from commencement, first 15 vols. bound in cloth. Price, 4l. cash, or suitable exchange in books, apparatus, &c., to 5l. Walker, chemist, Longton, Staffordshire.

On sale, very cheap, in excellent condition, a carte lens and camera, bath, stand, half-a-dozen strong printing frames, quantity of best glass, and a half-plate lens and camera. Amos Ramsbottom, 37 Rutland Street, Rusholme Road, Manchester.

Ointment machine, makes 70 lbs., price 2l.; Maw's tin still, with worm complete, 6 qts., price 7s.; 1st, 2nd, and 3rd vols. "Pharmaceutical Journal," well bound, 7s.; Tweedie's "Library of Medicine," 2 vols., 3s. 6d.; "London Pharmacopœia," 1s. S. J. Potts, Chemist, Mansfield.

A valuable collection of questions which have been given in the Minor Examination since October last, price 5s.; also a collection of 30 prescriptions for difficult emulsions, pills, &c., which have been given in the dispensing portion of the Minor, price 1s. "Chemist," Gazette Office, East Grinstead.

Sikes' best double-gilt hydrometer, with book of tables, glass, &c., new, 2l. 10s., cost 4l. 10s.; "Popular Science Review," complete, 10 vols., new, 3l. 3s. (published 6l. 6s.); Todd's "Cyclopædia: Anatomy and Physiology," 4 vols., new, 3l. 10s.; "Ricord Maladies Vénériennes," fine plates, scarce, 4l. 10s.; Hamilton's "Metaphysics and Logic," 4 vols., 2l. 2s. D., 161 Seven Sisters' Road, London, N.

Arnott's "Physics," 2 vols., 7s. 6d. (fifth edition); Blakeston's "Chest Diseases," 2s. 6d.; Gardner "On Gout," 5s.; Althaus "On Tumours," 2s. 6d.; Gregory's "Outlines Chemistry," 4s. (published 12s.); Fowne's "Chemistry" (ninth), 6s. 6d.; Cooley's "Receipts," equal to new, well bound, 12s. 6d.; Rossiter's "Botany," new, 1s. 2d.; Quain's "Anatomy," 1832, 4s.; Quain's "Anatomical Plates," 4 parts, 8 coloured plates, and Dewhurst's "Anatomy," eight coloured plates, lot 10s. "Chemist," Church Street, Huddleigh, Suffolk.

Half-horse engine, neatly-finished, 30s.; oil cistern, with tap, holds 10 galls, 8s.; six cell Inco's battery, with coil, 25s.; three show globes, 10s.; job lot stoppered bottles and jars, with contents, 15s.; a quantity of indicators for offices, 1s. 6d. each; handsome musical box, Nicole Frères, new, playing sixteen operatic tunes, cost 20l., lowest cash price, 14l.; a complete set of forceps, Tome's pattern, best make, circular joints, chequered handles, in handsome mahogany boxes, lock and key, price 46s. per set; two sets consisting of 8 pairs in cases, 16s. per set. Address, J. Garforth, 14 Nethortherpe Street, Sheffield.

ical plates, medico-botanical map and diagrams, "Hand-book for Chemists," "Botany," Smith's "Guide," "London Pharmacopœia," Steggall's "Pharmacy," Lescher's "Elements," "Medical Dictionary," "English Grammar," physician's prescriptions, splendid herbarium. Apply, Storey, Bourn, Lincolnshire.

Stock of a wholesale druggist, comprising 1½ cwt. pulv. jalapæ, opt.; 56 lbs. pulv. rhei, E. I., opt.; 1 cwt. pulv. myrrh., opt.; 14 lbs. pulv. antim. tart.; 14 lbs. pulv. ipecac.; 56 lbs. pulv. carb. lign.; 14 lbs. pulv. onulæ; 1 cwt. pulv. aloes socotrine, Barbadoes, Cape; 28 lbs. pulv. gentian; 86 lbs. pulv. fœnugree and compound; 130 lbs. pulv. anisi, carui, cymini; 28 lbs. pulv. curcumi; 14 lbs. pulv. acaciæ; 1 cwt. camomiles; 1½ cwt. Irish and Iceland moss; 5 cwt. Tinivelly seuna; 2 cwt. aloes socotrine, Cape, Barbadoes; 28 lbs. calomel; 56 lbs. red precipitate; 7 lbs. corrosive sublimate; 1 lb. croci opt.; 14 lbs. safflower; 28 lbs. zinci sulph. pur.; 28 lbs. ferri sulph. pur.; 40 lbs. ferri carb. precip.; 36 lbs. cretæ precip.; 5 cwt. sulph. nig.; 32 lbs. pulv. coloc. Turc.; 28 lbs. sang. dragon.; 165 lbs. cort. cinchon., flavæ, lanc, rubrum; 14 lbs. sem. cardam. min.; 7 lbs. gum tragac., sorts; 1 cwt. tartaric acid; 2 cwt. magn. citrat., granulated; 100 lbs. fine gum acaciæ, Turc. alb.; 1 cwt. acaciæ sorts; 12 lbs. ol. rosmarini; 4 lbs. finest ol. rosæ geranii; 40 lbs. ol. ricini; 20 lbs. pulv. scillæ; 7 lbs. rad. ipecac; 14 lbs. cort. canellæ; 14 lbs. rad. hellab., alb. and nig.; 14 lbs. rad. calumbæ; 28 lbs. rad. jalapæ, opt.; 7 lbs. rad. Senegæ; 2 cwt. rad. rhei, E. I., &c.; 5 upright mahogany wall cases; 7 upright mahogany counter cases, with and without desks; 10 bent, sloping, flat mahogany show cases; superior tooth-brush show case; superior (Maw's) upright plate-glass show case, similar to No. 67 Treble's catalogue, with two folding doors at each end and two sliding doors in the centre, 7 feet 4½ inches long, 2 feet 3 high, 10½ inches wide, with plate-glass mirror backs, in two compartments, with three plate-glass polished shelves in each, and shelves behind fitted for dispensing bottles, with plate-glass tablet, written "Dispensing Department," equal to new; handsome silvered plate-glass show stand, for window or counter; stock of a medical shop fitter, consisting of shop bottles, blue syrup, black glass stock bottles, patent oil, æther bottles, show carboys, specie jars, show jars, vases, tincture presses; composition, iron, marble mortars and pestles; funnels, glass, tin measures, scoops, palette knives, porcelaters; pill machines, 2, 4, 5-grain; pastile machine, dispensing-counter scales, tooth instruments, retort, vial, test-tube stands. Lloyd Rayner, 309 New North Road, Islington, London.

WANTED:

Field's "Chemistry," fourth edition, 1872. 34/235.
British Pharmacopœia" and Royle's "Materia Medica." W. A. Wood, Hunslet.
Cash and dried specimens of all indigenous medicinal plants. "Botanist," Gazette Office, East Grinstead.
Soda-water stand, marble top, Maw's preferred. Apply to A. Rogers, chemist, Newmarket.
Burrows' soda water rack; quote size and price. F. Clifton, 34 Corn Market, Dorby.
Barber's "Pocket Pharmacopœia." Pharmacist, 1 Castle Street, Reading.
Good 3-grain pill machine, for 36. A. B., 4 Brunswick Place, Burnham, Somerset.
Caseley's "Formulary Receipt Book," and "Book of Prescriptions." Henry Pattison, Chemist, Shrewsbury.
Bright Counter Show Case, three to five feet long. Sheldrake, Chemist, Kingley.
Botanical Collecting Case, with straps; also "Materia Medica," last edition, in good condition. Starling, Broadway, Tunbridge Wells.
Any chemist who has a rotary pill machine, and is willing to mix and roll pills in quantities of 28 dozen at a time, is requested to send terms to E. J. Orchard, chemist, Salisbury.
Watson's "Practice of Physic," last edition. Condition no consequence if complete. Must be cheap. Lex, 6 Abingdon Buildings, Bath.

New Sea Medicine Chests for 10 men; about 50 gross of good phial corks for 3vij. bottles. Allen's and Mexican Restorers; also a second-hand mahogany counter top. 18/235.

Tinned iron cistern, to hold a pipe of olive oil; soda-water stand (as fig. 62 Maw's catalogue). March, chemist, New Brompton, Kent.

Mahogany Counter Desk, with show case in front; nine dozen glass knobs, either crystal or topaz; lemonade stand; and toilet requisites, &c. Carriage paid. Apply, Munro, Coatbridge.

A pear-shaped show bottle, not less than 18 inches high to rim, good shape. Send full particulars and price, including package, &c., J. Dove, Sherburn, South Milford, Yorkshire.

"Chemist and Druggist" for January, February and March, 1874. Full price and postage will be paid, if in good condition. A. J. Tansley, dispenser, Hartshill Infirmary, Stoke-upon-Trent, Staffordshire.

Druggists' Sundries.

WHAT IS that which is full of holes, and yet water?—A sponge.—*Punch*.

A MISPRINT occurred last month in the advertisement of Messrs. Ellis & Co.'s Sprinkling Stoppers, which were priced (wholesale) at 3s. 6d. per dozen, but should have been 3s.

Judy asks, What is the difference between a gauze dress and a drawn tooth?—Because one is *tooth in*, and the other is *tooth out*.

MESSRS. LEONARD & Co., of Bristol, are the proprietors of the Bavarian Diarrhœa and Cholera Mixture, which they are introducing to the trade. It has the advantage that a small dose only is required.

OF ALL solid substances found upon the earth, carbon is both the hardest and the softest. In the form of diamond, it is the hardest. In the form of graphite, it is the softest. Both diamond and graphite are the same in chemical composition.

"OLEOMARGARINE," or soap-fat butter manufacture, seems to have come to grief in San Francisco, the *Alia* of the 7th noticing the sale at a sacrifice of the fixtures of the factory in that city.

A NOVELTY has been introduced by Messrs. Whitaker & Grossmith in "White Cherry Tooth Paste." It is a light primrose colour, of good consistence and most agreeable flavour. It will most probably be successful.

WESTERN BUTTER.—A western paper says dealers in butter classify it as wool-grease, cart-grease, soap-grease, variegated, tessellated, cow-grease, boarding-house breakfast, inferior tub, common tub, medium roll, good roll, and gilt-edge roll. The terms are strictly technical.

A PUFF.—A western journal, probably wishing to do the handsome thing by the local doctor, recently announced that "Dr. Crawford was called in, and under his prompt and skilful treatment the young man died on Wednesday afternoon." This the *Detroit Free Press* calls the puff oblique.

TO DYE LEATHER BLUE-BLACK.—Take of beeswax, 3 ozs.; black resin, 2 ozs. Melt together, and then add: Prussian blue, 1 oz.; lampblack, ½ oz. While the mixture is cooling, add turpentine till a suitable consistency is obtained. It should be applied with a soft rag, and the leather afterwards polished with a brush.

OPIMUM EATING IN THE UNITED STATES.—According to the *Cincinnati Gazette* the use of opium as a stimulant is becoming pretty general throughout the United States. Women appear to be more addicted to the habit than men, and it prevails to a larger extent among the richer and better educated classes than among the poor. The Custom House returns show that the quantity of opium imported into the country (reaching now nearly 250,000 lbs. annually) is ten times more than it was thirty years ago, and it is the opinion of physicians and druggists that not more than one-third of the quantity is used for medicinal purposes.

WORTH KNOWING.—A medical authority makes the following statement as one that should be generally known:—In making a mustard plaster, no water whatever should be used, but the mustard mixed with the white of an egg; the result will be a plaster which will "draw" perfectly, but will not produce a blister even upon the skin of an infant, no matter how long it is allowed to remain upon the part.

STEDMAN'S FOOD FOR INFANTS AND INVALIDS.—Mr. Stedman, who may fairly be considered an authority on the necessities of baby life, has produced a food which, so far as we have examined, seems a very good one. The special object in preparing it has been to obtain all the nitrogenous constituents of wheat, and to thoroughly cook the food, so as to ensure the perfect disruption of the starch granules. There is no trace of any burnt flavour in the food. It is put up in an attractive and saleable form.

M. NORDENSKJÖLD (the intrepid Swedish Arctic traveller) has recently found in the ice and snow of the Polar Sea a black dust. This he has melted and subsequently submitted to a chemical analysis, which proved that it was composed of nickel and cobalt, and similar in constitution to the meteorites. It seems probable, therefore, that the powder is actually due to the disintegration of these aerial bodies at a short distance from the earth.

AN American editor says he has read in an Exchange that "the corn of Mr. Redman, of Lyeoming county, is two feet high." He adds, "We pity Redman. We cannot imagine how he gets his hoots on over such a corn as that. Of course Redman cannot enjoy himself in hot weather. We hope Redman will never have a bunion. A man who grows such monster corns would certainly develop a bunion the size of a flour barrel."

NECTAR FOR THE AMERICAN GODS.—Recently, says an American paper, Professor Aughey, the chemist of the Nebraska University, analysed a favourite brand of whisky obtained at a high-toned saloon in Lincoln, and found it to contain the following delectable components:—Oil of almonds, kerosene, potash, salts of lead, and strychnine. A favourite brandy was found to embody—Sulphuric acid, turpentine, lime, strychnine, logwood, and fusel oil.

A SITUATION has lately been advertised in the following terms:—"A practical manager wanted for a sugar refinery. Will have a boiler under him. Must be a man of education, and experienced either in sugar refining or in chemical manufacturing. Salary, 600*l.* at first, which will be increased if qualifications warrant." We hope the selected candidate has stipulated for a quarter's salary and a month's holiday in advance, as with that boiler under him the poor fellow will not much enjoy his 600*l.* a year.

A CHEMIST'S MISADVENTURE.—A valuable work has been lost to the world by an extraordinary accident. Professor Bunsen, of Heidelberg, the famous chemist, has been engaged for four years preparing a new book, which was shortly to have been published, and its appearance was looked forward to with great interest by the scientific world. The Professor, about a week ago, in starting for a short walk, left the manuscript of his new book, both the rough copy and notes and the copy for the printer, lying on his desk. On his return he found both sets of papers, with some others, in flames, and before he could put out the fire they were burnt to ashes. Not a leaf has been left. It appears that some lucifer matches lying about the desk were ignited by the sun and set fire to the valuable manuscripts.

BANTINO BEATEN.—An American surgeon has lately recorded how he removed a fleshy formation on the neck of a patient by means of galvanism. This seems to have struck the fancy of a Washington editor, who at once dimmed the brilliance of the surgeon's exploit by the narration of an event which happened to a gentleman of his own acquaintance. This acquaintance was uncomfortably wealthy in adipose tissue. An ingenious doctor promised to relieve him of some of his burden if he would submit to a painful operation. The fat gentleman consented, and the two entered a telegraph office. The patient was told to remove his coat and vest, after which the physician surrounded him with wires, attaching the ends to a powerful battery. At a signal from the doctor, Manager Eddy let on

the current. The patient writhed and twisted when he felt the current passing around him; still he stood like a martyr. Presently he began to shrink; he grew smaller and smaller; his clothing hung in bags about his fast diminishing form; the doctor felt much pleased at the result of his experiment, while the formerly fat man's joy was very great, although he seemed to be suffering acute pain. All of a sudden there was heard a loud clicking at the instrument, as if Pandemonium's great hall had been let loose. The operator sprang quickly to answer the call. He ascertained it was from the New York office. He quickly asked "What's up?" An answer came back as if some infuriated demon was at the other end of the wire, "What in thunder are you about? Cut off your wires quick—you are filling the New York office with soap-grease."

SAWDUST BRANDY.—An American journal of high moral principles is sorry to learn that a German chemist has succeeded in making a first-rate brandy out of sawdust. We are friends to the temperance movement, says the editor, and want it to succeed, but what chance will it have when a man can take a rip-saw and go out and get drunk with a fence rail? What is the use of a prohibitory liquor law if a man is able to make brandy smashes out of the shingles on his roof, or if he can get the *delirium tremens* by drinking the legs of his kitchen chairs? You may shut an inebriate out of a gin shop and keep him away from taverns, but if he can become uproarious on boiled sawdust and desiccated window-sills, any effort at reform must necessarily be a failure. It will be wise, therefore, if temperance societies will butcher the German chemist before he goes any further. His recipe ought not to be made public. He should be stuffed with distilled board-yards until he perishes with *mania a potu*.

TOOTH BRUSHES.—The history of a tooth brush before it comes to the retail dealers is more complicated than might be supposed. We lately walked through the factory of Messrs. Bidwell & Sons, Kingsland Road, patentees of the "Desideratum" tooth brush, and took a hasty glance at the manufacture in all its steps. First, there was a pile of ox bones of about the necessary length; these are cut into strips by a circular saw, and passed to men who plane them somewhat smooth, ready for the shaping machines, which gives the profile of the brush only. They are next taken to the top workshop, where other men smooth the surface and take off angles which the machinery is not capable of doing. The handles are now steeped in turpentine to loosen grease and other unsightly marks. After immersion for twenty-four hours they are taken and boiled, until all stains are removed, in a copper, about 2,000 being done at one boiling. They are then placed in a large revolving cylinder driven by steam power, where they remain until sufficiently smoothed and polished. This, however, is not sufficiently brilliant for this fastidious century, and a still higher polish is therefore obtained by subjecting the bone to the process of "bobbing," this being accomplished by holding them on revolving discs of stout felt, upon which a preparation has previously been smeared. The handles are next well dried, and carried to the sorting room, where the various shapes and qualities are selected and sent to the drilling or boring room, where numerous lathes, revolving at 3,000 or more revolutions per minute, pierce the holes, and a most ingenious machine cuts the four furrows in the back of the brush at one stroke. They are now ready for the bristles to be drawn into them, which is done by about fifty expert girls with thin brass wire, and passed into the hands of an examiner to detect any that should not be considered well done and secured. They are now passed into the finishing room, where the small pieces of wire are laid down and the backs or grooves filled in with red or white cement. They are again taken below, and a still higher polish obtained on the handles by the same process as before explained. After carefully washing they are well dried, and the bristles cut smooth or in various forms as required. This is accomplished by a very elaborate little machine only recently invented. Previously this was done by hand with scissors. The final burnish is now given to the handles with clean leathers and powder capable of producing a high finish, after which skilled examiners select the different qualities and pass on to the stampers, where the names of the customers are printed upon them. The final process is to pack them in boxes ready for transit. As a matter of curiosity Messrs. Bidwell counted for us and ascertained that each of their best patent brushes pass through the hands forty-two times before completion.

Personal.

Mr. WILLIAM MORGAN, Ph.D., F.C.S., has been appointed Public Analyst for Swansea, at a salary of 100*l.* per annum.

Mr. NIDD, chemist, of Boston, Lincoln, has shut up his shop and gone into the mineral water trade.

Mr. J. A. QUARMBY, of Westgate, Wakefield, has removed to more convenient premises in Cross Square.

Mr. SHERWOOD, chemist, Sherborne, Dorset, has disposed of his business and retired from the drug trade to cultivate that of a general victualler.

Mr. ALFRED WILLIAM SMITH, chemist and druggist, has been appointed Public Analyst for Rye, the remuneration to be 5*s.* 10*s.* per analysis.

Mr. WHITWELL, chemist, Peterboro', has retired from business after 40 years' connection with the trade. He was a man of various business habits, and was well known in the district through his strong and pronounced political opinions.

Mr. SANDALE, chemist, of the Drapery, Northampton, successor of the old-established business of Welchman Brothers, has disposed of his business to Mr. Philadelphus Jeyes, chemist, of Northampton.

EDWARD WOODWARD, CHEMIST, BIRMINGHAM.—A meeting of creditors in the matter of a petition of this debtor, under liquidation clauses of the Bankruptcy Act, was held at the offices of Mr. Reuben Taylor, solicitor, Waterloo Street, Birmingham, on the 4th inst., Mr. W. Lomas Harrison in the chair. The following statement was submitted to the creditors—Liabilities: Unsecured creditors, 432*l.* 0*s.* 11*d.*; rates, taxes, &c., 25*l.* 2*s.*; total debts, 457*l.* 2*s.* 11*d.* Assets, 69*l.* 9*s.* The debtor had been in business about four years with borrowed capital. The meeting resolved to wind up the estate in liquidation, and Mr. Harrison was appointed trustee to receive and distribute the bills. The following are the principal creditors:—

	£	s.	d.
Evans, Sons & Co., London	12	2	9
Harris & Co., Birmingham	34	18	7
Hodgkinson, Preston & King, London	10	17	2
Holdsworth, Thomas, Birmingham	26	0	0
Harvey, James, Erdington	95	0	0
Lickfold & Co., London	13	2	10
Langton, Scott & Edden, London	13	1	2
Maw, Son & Thompson, London	8	17	10
Wyley & Co., Coventry	14	10	9
Bouthall, Son & Dymond, Birmingham	5	0	5
Batton, W. & Co., London	5	7	4



THE interval between spring and autumn trade is always a period of lull, and, whether on the Stock Exchange or in the various markets, June is a recognised month for lotus eating. At present business in most departments is, however, exceptionally quiet, and just now is quite apparent from the recent falls which have been notified in the Bank rate of discount. The exceeding tightness of money is clearly due rather to the lack of employment for it than to any great influx of gold. And as corroborative of this dull condition, the most recently issued returns of the Board of Trade show that our exports have alarmingly and perceptibly fallen off. We say alarmingly, although we know that the diminution of nearly one and a half millions in value compared with May of last year can be accounted for to a great extent. First of all, the reduced value of many staples is an item in the calculation. Alkali, for example, taking the six months already completed, is a case in point. While nearly

80,000 cwts. more have been shipped during that period of this year than of 1873, the money value totals at 130,000*l.* less. Then, too, it must be remembered that during the early part of 1873 export trade was exceptionally active. The famine in Bengal has been held accountable for a considerable falling off in certain textile fabrics, and no doubt these and other special circumstances may fairly be named as factors which reduce the ugly look of the figures. But when we come to the items of iron and steel, and observe that the falling off amounts to 66,000 tons decrease, comparing May 1874 with May 1873, or in value a decrease of 818,000*l.*, we cannot but think that there is reason for a trade reporter to use the adjective *alarming* in reference to these warning statistics.

Chemical manufacturers have found trade more healthy. The Whitsuntide holidays always take a week out of the month's work in most of the chemical manufacturing centres, but there has been, nevertheless, a fairly good demand both from home and foreign consumers.

The strike of the labourers on the Tyne, which we reported last month, has come to an end, as we anticipated.

The chief feature of the market is, however, the long continued low rate of prices. Speculators during the busy time must have burned their fingers rather smartly, for there seems to be an endless stock of nearly all products in second hands. It is this which keeps the market so cheap, far more than a slackness in the demand. In most cases large buyers can obtain concessions, which is not a symptom of perfectly vigorous trade. Bleaching powder has failed to maintain its position, and is now quoted at from 11*l.* 5*s.* to 11*l.* 10*s.* A steadily increasing dulness has reduced citric acid to 4*s.* 0½*d.*, and oxalic has now touched 6¾*d.* Chlorate of potash has gone down rapidly to 10½*d.*, and soda is also easier. Iodine has again occasioned a surprise by descending to 10½*d.*, and it is possible—but no; iodine is not a safe product to prophecy about. Quinine, on the contrary, is dearer, and English make has resumed its supremacy in price, at the long-established difference, namely, 8*s.* for British, and 7*s.* 9*d.* for French.

Opium has at last justified our predictions and taken the upward course. Many people think it is likely to be very dear, and there have been reports about some parties buying largely in Smyrna at the lowest ebb; but these rumours, though probable, are not trustworthy. Camphor is somewhat cheaper, owing to the excessive stocks. Balsam of Tolu is very dear, 3*s.* 4*d.* to 3*s.* 6*d.* being now the nominal quotations. Jalap has come over in abundance, and has receded a little in consequence. Almond oil, too, may be bought 1*d.* cheaper.

The reports from Italy indicate excellent prospects for the next olive crop. Some severe frosts in the latter half of May gave things a critical look, but vegetation was fortunately too backward to be affected by them, and good judges say that the blossom could not look more promising. A plentiful year seems a reasonable anticipation. The fluctuations in the value of rape have been unimportant, but the market has recently become a little firmer. Palm has been in but moderate request at 34*l.* 10*s.* for 34*l.* 15*s.* for fine Lagos: 34 casks, all that was offered in public sale, were bought in at 34*l.* 15*s.* Crude sperm attracts no attention and is now quoted 100*l.* Pale seal, being scarce, is firm at 37*l.* Whale moves off slowly at 29*l.* to 31*l.*, according to quality. Cod is difficult of sale at 40*l.*

Petroleum has continued to recede, and the demand on the spot has been but limited, the market closing at 10½*d.* for SW and at 10¾*d.* for PW, but a large business has again been done for the last four months at 1*s.* to 11¾*d.*, sellers preponderating at the latter price. The attempted combination of producers in America, with the object of limiting the supply, has proved a failure. No difference is to be noted in the price of the oil. Turpentine has fallen still lower, 28*s.* 6*d.* being now sufficient to buy either French or American spirits.

Monthly Price Current.

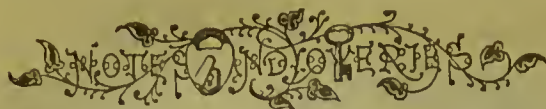
The prices quoted in the following list are those actually obtained in Mining Lano for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

1874.				1873.			
ACIDS—				ACIDS—			
Acetic	per lb.	0 4	to 0 4½	0 4½	to 0 0		
Citric	per lb.	4 0½	to 4 1	4 6	to 4 6½		
Hydrochloric	per cwt.	5 0	to 7 0	4 0	to 7 0		
Nitric	per lb.	0 5	to 0 5½	0 5	to 0 5½		
Oxalic	per lb.	0 6½	to 0 0	0 9	to 0 9½		
Sulphuric	per lb.	0 0½	to 0 1	0 0½	to 0 1		
Tartaric crystal ..	per lb.	1 6½	to 1 7	1 6½	to 1 7		
powdered ..	per lb.	1 7	to 1 7½	1 7	to 0 0		
ANTIMONY ore	per ton	200 0	to 240 0	230 0	to 0 0		
crude ..	per cwt.	0 0	to 0 0	0 0	to 0 0		
regulus ..	per lb.	0 0	to 0 0	0 0	to 0 0		
star ..	per lb.	47 6	to 48 0	60 0	to 61 0		
ARSENIC, lump	per lb.	20 6	to 0 0	20 6	to 0 0		
powder ..	per lb.	10 0	to 0 0	10 3	to 0 0		
BRIMSTONE, rough ..	per ton	127 6	to 145 0	125 0	to 145 0		
roll ..	per cwt.	9 9	to 10 0	10 0	to 0 0		
flour ..	per lb.	11 6	to 12 6	11 6	to 12 6		
IODINE, dry	per oz.	0 10½	to 0 11	1 7	to 0 0		
IVORY BLACK, dry ..	per cwt.	8 6	to 0 0	8 6	to 0 0		
MAGNESIA, calcined ..	per lb.	1 6	to 0 0	1 6	to 0 0		
MERCURY	per bottle	395 0	to 0 0	275 0	to 280 0		
MINIUM, red	per cwt.	25 0	to 25 3	25 6	to 0 0		
orange ..	per lb.	37 0	to 0 0	35 6	to 0 0		
PRECIPITATE, red ..	per lb.	6 2	to 0 0	4 8	to 0 0		
white ..	per lb.	6 1	to 0 0	4 7	to 0 0		
PRUSSIAN BLUE ..	per lb.	0 0	to 0 0	0 0	to 0 0		
SALTS—				SALTS—			
Alum	per ton	172 6	to 180 0	162 6	to 0 0		
powder	per lb.	192 6	to 0 0	182 6	to 0 0		
Ammonia:							
Carbonate	per lb.	0 7	to 0 7½	0 7½	to 0 7½		
Hydrochlorate, crude,							
white	per ton	650 0	to 0 0	640 0	to 0 0		
British (see Sal Am.)							
Sulphate	per ton	330 0	to 350 0	350 0	to 0 0		
Argol, Cape	per cwt.	87 6	to 97 6	87 0	to 96 0		
Red	per lb.	76 0	to 82 6	75 0	to 85 0		
Oporto, red ..	per lb.	28 0	to 32 0	32 0	to 32 6		
Sicily	per lb.	52 6	to 57 6	60 0	to 65 0		
Ashes (see Potash and Soda)							
Bleaching powd.	per cwt.	11 3	to 11 6	12 6	to 0 0		
Borax, crude	per lb.	40 0	to 85 0	55 0	to 75 0		
British refined ..	per lb.	75 0	to 0 0	105 0	to 0 0		
Calomel	per lb.	5 9	to 0 0	4 3	to 0 0		
Copper:							
Sulphate	per cwt.	26 0	to 27 0	31 6	to 32 0		
Copperas, green ..	per ton	65 0	to 70 0	60 0	to 62 6		
Corrosive Sublimate ..	per lb.	5 0	to 0 0	3 0	to 0 0		
Cr. Tartar, French, p. cwt.	per lb.	110 0	to 0 0	107 6	to 0 0		
hrown ..	per lb.	95 0	to 100 0	96 0	to 98 0		
Epsom Salts	per cwt.	5 9	to 6 3	5 9	to 6 3		
Glanber Salts	per lb.	4 6	to 5 6	7 6	to 0 0		
Lime:							
Acetate, white, per cwt.	per lb.	14 0	to 21 0	16 0	to 22 0		
Magnesia: Carbonate ..	per lb.	42 6	to 45 0	42 6	to 45 0		
Potash:							
Bichromate	per lb.	0 6½	to 0 0	0 8½	to 0 0		
Carbonate:							
Potashes, Canada, 1st	sort	36 3	to 36 6	38 0	to 39 0		
Pearlshes, Canada, 1st	sort	0 0	to 0 0	52 0	to 0 0		
Chlorate	per lb.	0 10	to 0 10½	1 6	to 0 0		
Prussiate	per lb.	1 0	to 1 0½	1 4½	to 1 5		
red	per lb.	2 10	to 2 11	3 1	to 0 0		
Tartrate (see Argol and Cream of Tartar)							
Potassium:							
Chloride	per cwt.	6 9	to 7 0	8 6	to 0 0		
Iodide	per lb.	13 6	to 0 0	25 6	to 0 0		
Quinine:							
Sulphate, British, in	bottles	8 0	to 0 0	8 0	to 0 0		
Sulphate, French ..	per lb.	7 9	to 0 0	7 10	to 7 0		
Sal Acetos	per lb.	0 10	to 0 10½	1 1½	to 0 0		
Sal Ammoniac, Brit. cwt.	per lb.	44 0	to 45 0	44 0	to 45 0		
Saltpetre:							
Bengal, 6 per cent. or	under	19 6	to 20 6	26 9	to 27 6		
Bengal, over 6 per cent.	per cwt.	17 6	to 19 6	25 0	to 26 6		
British, refined ..	per lb.	25 6	to 27 6	30 6	to 31 6		
Soda: Bicarbonate, p. cwt.	per lb.	15 9	to 16 0	18 3	to 0 0		
Carbonate:							
Soda Ash	per deg.	0 2½	to 0 0	0 2½	to 0 3		
Soda Crystals	per ton	100 0	to 102 6	122 6	to 0 0		
Hyposulphite, per cwt.	per lb.	0 0	to 0 0	15 6	to 16 0		
Nitrate	per cwt.	1 3	to 11 9	15 0	to 15 3		
SUGAR OF LEAD, White cwt.	per lb.	47 0	to 48 0	45 6	to 0 0		
SUGAR OF LEAD, Brown, cwt.	per lb.	32 6	to 33 0	30 0	to 0 0		
SULPHUR (see Brimstone)							

1874.				1873.			
VERDIGRIS	per lb.	1 1½	to 1 6	1 1½	to 1 2		
VERMILION, English ..	per lb.	5 5	to 5 0	4 2	to 4 4		
China ..	per lb.	5 0	to 0 0	4 2	to 4 3		
DRUGS.							
ALOE, Hepatic	per cwt.	80 0	to 200 0	80 0	to 200 0		
Scotrine ..	per lb.	102 6	to 240 0	110 0	to 320 0		
Cape, good ..	per lb.	38 0	to 40 0	30 0	to 34 0		
Inferior ..	per lb.	25 0	to 37 0	20 0	to 29 0		
Barbadoes ..	per lb.	65 0	to 190 0	70 0	to 190 0		
AMBERGRIS, grey	per oz.	0 0	to 0 0	30 0	to 39 0		
BALSAM—							
Canada	per lb.	2 8	to 2 10	3 6	to 0 0		
Capivi	per lb.	2 5	to 2 9	2 2	to 0 0		
Peru	per lb.	3 0	to 8 1	9 0	to 9 3		
Tolu	per lb.	3 4	to 3 6	1 11	to 2 0		
BARKS—							
Cassia alba	per cwt.	16 0	to 27 0	15 0	to 25 0		
Cascarilla	per lb.	22 0	to 31 6	26 0	to 35 0		
Peru, crown & grey ..	per lb.	0 10	to 2 7	1 0	to 2 0		
Calisaya, flat ..	per lb.	2 10	to 4 2	3 0	to 3 0		
quill ..	per lb.	2 8	to 4 2	3 4	to 4 0		
Carthagena ..	per lb.	0 8	to 2 0	0 10	to 1 0		
E. I.	per lb.	0 6	to 3 9	0 4	to 4 0		
Pitayo	per lb.	0 4	to 2 0	0 4	to 2 0		
Red	per lb.	1 7	to 3 10	1 10	to 6 0		
Buchu Leaves	per lb.	0 2	to 1 0	0 2	to 1 0		
CAMPBON, China	per cwt.	75 0	to 76 0	76 0	to 77 0		
Japan ..	per lb.	77 0	to 79 0	85 0	to 0 0		
Refin. Eng. per lb.	per lb.	1 2½	to 0 0	1 3	to 0 0		
CANTHARIDES	per lb.	2 3	to 5 0	6 0	to 6 0		
CHAMOMILE FLOWERS ..	per cwt.	30 0	to 68 0	45 0	to 75 0		
CASTOREUM	per lb.	4 0	to 20 0	6 0	to 20 0		
DRAGON'S BLOOD, l. p. cwt.	per lb.	105 0	to 255 0	105 0	to 240 0		
FRUITS AND SEEDS (see also Seeds and Spices).							
Anise, China Star	per cwt.	113 6	to 120 0	120 0	to 127 0		
Spanish, &c.	per lb.	12 0	to 27 0	20 0	to 42 0		
Beans, Tonquin	per lb.	1 6	to 2 4	3 7	to 3 0		
Cardamoms, Malabar							
good	per lb.	4 3	to 4 8	4 6	to 7 0		
inferior ..	per lb.	2 0	to 4 0	3 3	to 4 0		
Madras ..	per lb.	2 0	to 3 6	1 2	to 4 0		
Ceylon ..	per lb.	2 6	to 4 6	4 9	to 5 0		
Cassia Fistula	per cwt.	12 0	to 18 0	10 0	to 20 0		
Castor Seeds ..	per lb.	5 0	to 10 0	5 0	to 10 0		
Cocculus Indicus ..	per lb.	14 0	to 15 0	15 0	to 20 0		
Colocynthis, apple ..	per lb.	0 4	to 0 10	0 4	to 0 0		
Croton Seeds	per cwt.	42 0	to 44 0	52 0	to 55 0		
Cubabs	per lb.	24 0	to 25 0	33 0	to 35 0		
Cummin	per lb.	15 0	to 22 0	25 0	to 26 0		
Dividivi	per lb.	11 0	to 15 0	12 0	to 15 0		
Fenugreek	per lb.	8 0	to 16 0	9 0	to 23 0		
Guinea Grains ..	per lb.	25 0	to 26 0	25 6	to 26 0		
Juniper Berries ..	per lb.	9 0	to 10 6	9 0	to 10 6		
Nux Vomica	per lb.	7 6	to 15 0	13 0	to 17 0		
Tamarinds, East India ..	per lb.	10 0	to 15 0	5 6	to 13 0		
West India, new ..	per lb.	14 0	to 28 0	38 0	to 42 0		
Vanilla, large	per lb.	68 0	to 86 0	70 0	to 89 0		
inferior ..	per lb.	45 0	to 67 0	35 0	to 67 0		
Wormseed	per cwt.	0 0	to 0 0	0 0	to 0 0		
GINGER, Preserved, per lb.	per lb.	0 5½	to 0 8	0 6	to 0 0		
HONEY Chili	per cwt.	32 0	to 46 0	28 0	to 40 0		
Jamaica ..	per lb.	40 0	to 44 0	35 0	to 40 0		
Australian ..	per lb.	38 0	to 48 0	20 0	to 38 0		
IPECACUANHA	per lb.	2 8	to 3 4	3 6	to 4 0		
ISINGLASS, Brazil ..	per lb.	3 0	to 4 11	3 2	to 5 0		
Tongue sort ..	per lb.	3 3	to 5 3	3 6	to 5 0		
East India ..	per lb.	1 8	to 5 0	2 0	to 4 0		
West India ..	per lb.	4 6	to 4 11	4 6	to 4 0		
Russ. long staple ..	per lb.	8 6	to 13 0	8 0	to 13 0		
inferior ..	per lb.	4 0	to 8 0	3 6	to 7 0		
Simovia ..	per lb.	3 3	to 5 0	2 6	to 4 0		
JALAP, good	per lb.	0 10	to 0 11	1 6	to 2 0		
infer. & stems ..	per lb.	0 6½	to 0 9	1 2	to 1 4		
LEMON JUICE	per degree	0 2½	to 0 0	0 2½	to 0 0		
LIME JUICE	per gall.	2 6	to 2 9	1 11	to 2 4		
LIQUORICE, Spanish ..	per cwt.	40 0	to 70 0	60 0	to 90 0		
Liquorice Root ..	per lb.	11 0	to 16 0	10 0	to 15 0		
MANNA, flaky	per lb.	2 6	to 3 0	2 6	to 3 0		
small	per lb.	1 2	to 1 5	1 4	to 1 6		
MUSK, Pod	per oz.	18 0	to 39 0	20 0	to 43 0		
Grain	per lb.	45 0	to 50 0	55 0	to 55 0		
OILS (see also separate list)							
Almond, expressed ..	per lb.	0 10	to 0 0	1 0	to 0 0		
Castor, 1st pale	per lb.	0 0	to 0 0	0 6	to 0 0		
second ..	per lb.	0 4½	to 0 5	0 5½	to 0 0		
infer. & dark ..	per lb.	0 4	to 0 4½	0 4½	to 0 0		
Bombay (in casks) ..	per lb.	0 4½	to 0 0	0 4½	to 0 0		
Cod Liver	per gall.	4 0	to 6 6	4 0	to 6 6		
Croton	per oz.	0 3	to 0 4	0 3	to 0 4		
Essential Oils:							
Almond	per lb.	25 0	to 0 0	30 0	to 0 0		
Anise-seed	per lb.	8 6	to 8 9	9 3	to 9 6		
Bay	per cwt.	0 0	to 0 0	65 0	to 70 0		
Bergamot	per lb.	10 0	to 13 0	9 0	to 0 0		
Cajeput (in boud) ..	per oz.	2 3	to 2 5	2 5	to 0 0		
Caraway	per lb.	5 3	to 6 0	5 6	to 6 3		
Cassia	per lb.	4 5	to 4 6	6 0	to 6 0		
Cinnamon	per oz.	0 8	to 7 6	0 8	to 3 6		
Cinnamon-leaf ..	per lb.	0 2½	to 0 2½	0 8	to 0 0		
Citronello	per lb.	0 1½	to 0 0	0 1½	to 0 0		
Clove	per lb.	8 9	to 0 0	5 0	to 0 0		
Juniper	per lb.	1 10	to 2 0	1 3	to 5 6		
Lavender	per lb.	1 10	to 5 0	2 0	to 19 0		
Lemon	per lb.	7 0	to 14 0	10 0	to 19 0		

1874.			1873.		
s.	d.	s. d.	s.	d.	s. d.
Essential Oils, continued:—					
Lemongrass	0 2½	0 0	0 3½	0 6	0 3½
Neroli	0 4	0 6	0 5	0 3½	0 3½
Nutmeg	0 7½	0 8	0 7½	0 8½	0 8½
Orange	8 0	10 0	7 0	12 0	7 0
Otto of Roses	15 0	22 0	18 0	27 0	18 0
Patchouli	3 6	4 0	3 9	4 0	3 9
Peppermint:					
American	20 6	22 6	15 3	16 3	15 3
English	29 0	32 0	29 0	34 0	29 0
Rosemary	1 4	1 10	1 0	1 10	1 0
Sassafras	2 3	3 0	2 6	3 8	2 6
Spearmint	6 0	18 0	6 0	20 0	6 0
Thyme	1 9	2 0	1 10	1 11	1 10
Ice, expressed	0 3	0 3½	0 1½	0 4	0 1½
Oil, Turkey	30 0	32 0	24 0	25 0	24 0
inferior	14 0	28 0	12 0	20 0	12 0
SSIA (bitter wood) per ton	70 0	85 0	90 0	100 0	90 0
BARB, China, good and					
inferior	2 9	5 0	2 9	5 9	2 9
Good, mid. to ord.	0 8	2 7	0 10	2 6	0 10
Dutch trimmed	0 0	0 0	8 0	10 0	8 0
Russian	0 0	0 0	0 0	0 0	0 0
OTS—Calumba	8 0	18 0	17 0	20 0	17 0
China	18 0	22 0	16 0	28 0	16 0
Galangal	23 0	24 0	18 0	22 0	18 0
Centian	17 0	19 0	18 0	0 0	18 0
Ellebore	30 0	33 0	30 0	33 0	30 0
Tris	30 0	70 0	36 0	80 0	36 0
Elitory	38 0	39 0	38 0	39 0	38 0
Link	1 0	1 3	0 10	1 0	0 10
Hatany	0 5	0 11	0 6	1 4	0 6
Necka	3 0	3 6	4 6	5 0	4 6
Nake	1 4	1 9	1 2	1 3	1 2
FRON, Spanish	22 0	27 0	20 0	25 0	20 0
EP	170 0	200 0	170 0	180 0	170 0
SAPARILLA, Lima per lb.	0 6	0 9	0 6	0 7	0 6
ara	1 0	1 3	1 3	0 0	1 3
onduras	1 3	1 7	1 1	1 8	1 1
amaica	1 5	2 3	2 0	2 4	2 0
SAFRAS	13 0	15 0	0 0	0 0	0 0
MMONY, Virgin	25 0	30 0	26 0	31 0	26 0
cond & ordinary	8 0	24 0	14 0	25 0	14 0
NA, Bombay	0 1	0 5	0 2	0 5	0 2
innively	0 1½	1 0	0 1½	0 10	0 1½
lexandria	0 3½	1 5	0 3	1 0	0 3
MACETI, refined	1 3	1 4	1 6	0 0	1 6
merican	1 0	1 1	1 2	1 3	1 2
ILLS	0 1½	0 2	0 1½	0 3	0 1½
MS.					
MONIACI drop	5 0	6 5	4 0	6 10	4 0
lump	3 0	4 10	2 10	4 0	2 10
MI, fine washed	12 0	12 10	12 0	14 10	12 0
bold scraped	11 0	11 15	10 0	11 10	10 0
sorts	6 0	10 10	6 0	11 0	6 0
dark	5 0	6 0	4 0	5 10	4 0
ABIC, E.I., fine					
pale picked	3 0	3 12	3 0	3 10	3 0
srts., md. to fin.	1 17	2 18	2 10	3 0	2 10
garblings	1 2	1 10	1 0	3 0	1 0
REEY, pick. gd. to fin.	7 10	11 0	7 10	11 0	7 10
second & inf.	4 0	7 5	4 0	6 10	4 0
in sorts	2 5	3 15	2 0	3 10	2 0
Gedda	1 0	1 16	1 0	2 0	1 0
RBARY, white	1 6	2 3	2 10	2 17	2 10
brown	1 5	1 16	1 10	2 0	1 10
STRALLAN	1 15	2 8	1 7	2 5	1 7
SAFETIDA, cm. to fin.	1 7	3 6	1 3	3 6	1 3
NJAMIN, 1st & 2nd	12 0	28 0	9 0	24 10	9 0
umatra 1st & 2nd	7 0	10 0	7 10	11 0	7 10
3rd	3 5	4 0	3 0	4 5	3 0
PAL, Angola red	5 10	5 15	6 0	6 15	6 0
Benguela	3 15	5 0	5 10	5 15	5 10
Sierra Leone, per lb.					
Manilla	9 0	18 0	13 0	26 0	13 0
MMAR, pale	45 0	50 0	48 0	52 0	48 0
Singapore	44 6	50 0	45 0	50 0	45 0
HORBIUM	11 0	15 0	11 0	15 0	11 0
LBANUM	1 6	2 0	1 6	2 0	1 6
NBOGE, pkcd. pipe per cwt.	180 0	280 0	220 0	250 0	220 0
AIACUM	1 6	2 7	0 8	2 6	0 8
CO	30 0	75 0	50 0	85 0	50 0
WHE, rough	24 0	34 0	20 0	26 6	20 0
scraped sorts	35 0	52 6	27 0	37 0	27 0
ASTIC, picked	4 6	6 0	6 0	7 0	6 0
RRH, gd. & fine per cwt.	119 0	250 0	125 0	220 0	125 0
ord. to fair	70 0	115 0	40 0	120 0	40 0
IBANUM, p. drop	66 0	68 0	72 0	77 0	72 0
amber & ylw.	58 0	65 0	62 0	68 6	62 0
garblings	23 0	39 0	20 0	40 0	20 0
NEGAL	3 0	3 3	3 5	3 10	3 5
NDARAC	85 0	100 0	60 0	95 0	60 0
ELLAC, Orange	0 0	0 0	0 0	0 0	0 0
Liver	0 0	0 0	0 0	0 0	0 0
US	23 0	23 6	30 0	35 0	30 0
AGACANTH, leaf	240 0	360 0	170 0	440 0	170 0
in sorts	30 0	170 0	60 0	160 0	60 0
LS.					
AL, pale	37 0	0 0	39 0	0 0	39 0
yellow to tinged	32 0	35 0	38 0	37 0	38 0
brown	30 0	31 0	32 0	0 0	32 0
ERM	104 0	0 0	0 0	0 0	0 0
ED	40 0	0 0	47 0	0 0	47 0

		1874.		1873.	
Oils, continued:—		£	s.	£	s.
WHALE, South Sea, pale, per tun	21 0	to	0 0	37 0	to 0 0
yellow „	30 10	..	0 0	36 0	.. 0 0
brown „	29 0	..	30 0	33 0	.. 0 0
East India, Fish „	25 10	..	0 0	27 15	.. 28 0
OLIVE, Galipoli „ per ton	45 0	..	0 0	43 0	.. 0 0
Trieste „	44 0	..	0 0	41 0	.. 0 0
Levant „	38 0	..	0 0	39 0	.. 0 0
Mogador „	37 10	..	0 0	38 0	.. 0 0
Spanish „	40 0	..	40 10	40 0	.. 0 0
Sicily „	39 0	..	39 0	40 0	.. 0 0
COCOANUT, Cochin „	38 10	..	39 0	39 0	.. 0 0
Ceylon „	35 0	..	35 5	34 0	.. 0 0
Sydney „	29 0	..	35 0	28 0	.. 33 10
GROUND NUT AND GINGELLY:					
Bombay „	0 0	..	0 0	0 0	.. 0 0
Madras „	35 10	..	36 0	36 0	.. 0 0
PALM, fine „	34 10	..	34 15	39 0	.. 39 10
LINSEED „	28 10	..	0 0	33 10	.. 0 0
RAPESEED, English, pale „	32 10	..	0 0	39 15	.. 0 0
brown „	31 10	..	0 0	37 10	.. 0 0
Foreign, pale „	34 0	..	35 0	41 0	.. 0 0
brown „	0 0	..	0 0	0 0	.. 0 0
COTTONSEED „	27 0	..	0 0	28 10	.. 29 0
LARD „	33 0	..	54 0	45 10	.. 0 0
TALLOW „	26 0	..	32 0	31 0	.. 0 0
TURPENTINE, American, cks. „	28 6	..	0 0	37 0	.. 39 6
French „	28 6	..	0 0	39 0	.. 39 6
PETROLEUM, Crude „	0 0	..	0 0	0 0	.. 0 0
refined, per gall.	s. d. 0 10½	..	s. d. 0 10½	s. d. 1 1½	.. s. d. 1 2
Spirit „	0 9	..	0 9½	0 10	.. 0 0
SEEDS.					
CANARY „ per qr.	70 0	..	80 0	46 0	.. 50 0
CARAWAY, English per cwt.	0 0	..	0 0	40 0	.. 44 0
German, &c. „	0 0	..	0 0	23 0	.. 36 0
CORIANDE „	10 0	..	13 0	13 0	.. 19 0
HEMP „ per qr.	40 0	..	42 0	40 0	.. 44 0
LINSEED, English per qr.	56 0	..	66 0	50 0	.. 66 0
Black Sea & Azof „	59 0	..	62 0	60 0	.. 60 6
Calcutta „	60 0	..	0 0	64 0	.. 64 6
Bombay „	61 0	..	0 0	65 6	.. 0 0
St. Petrsbrg. „	56 0	..	57 0	60 0	.. 61 0
Mustard, brown „ per bshl.	10 0	..	15 0	13 0	.. 16 0
white „	8 0	..	11 0	8 0	.. 9 0
POPPY, East India, per qr.	55 6	..	0 0	61 0	.. 0 0
SPICES.					
CASSIA LIGNEA „ per cwt.	63 0	..	70 0	80 0	.. 84 0
Vera „	24 0	..	60 0	27 0	.. 60 0
Buds „	115 0	..	117 6	117 6	.. 122 6
CINNAMON, Ceylon:					
1st quality „ per lb.	2 4	..	4 0	1 8	.. 3 6
2nd do. „	1 9	..	3 5	1 6	.. 3 0
3rd do. „	1 3	..	3 0	1 2	.. 2 9
Tellicherry „	3 3	..	3 5	2 7	.. 3 0
CLOVES, Penang „	1 10	..	1 11	1 0	.. 1 2
Amboyna „	1 3	..	1 4	0 7½	.. 0 11
Zanzibar „	1 3	..	1 3½	0 8	.. 0 8½
GINGER, Jam., fine per cwt.	105 0	..	240 0	100 0	.. 200 0
Ord. to good „	60 0	..	100 0	54 0	.. 95 0
African „	48 6	..	50 6	50 0	.. 0 0
Bengal „	47 6	..	54 0	45 0	.. 0 0
Malabar „	46 0	..	0 0	44 0	.. 0 0
Cochin „	70 0	..	110 0	54 0	.. 120 0
PEPPER, Blk, Malabar, per lb.	0 6½	..	0 6½	0 7½	.. 0 8
Singapore „	0 6½	..	0 6½	0 7½	.. 0 7½
White Tellicherry „	1 6	..	1 10	2 0	.. 0 0
Cayenne „	1 3	..	1 8	1 0	.. 1 6
MACE, 1st quality „	3 2	..	3 8	3 6	.. 4 0
2nd and inferior „	2 0	..	3 1	3 0	.. 3 5
NUTMEGS, 78 to 60 to lb.	3 6	..	4 5	3 2	.. 4 5
90 to 80 „	3 4	..	3 5	2 11	.. 3 0
132 to 95 „	2 11	..	3 3	2 6	.. 2 10½
PIMENTA „	0 3	..	0 3½	0 2½	.. 0 0
VARIOUS PRODUCTS.					
COCHINEAL—					
Honduras, black „ per lb.	2 1	..	3 0	2 3	.. 3 4
silver „	2 0	..	2 4	2 2	.. 2 5
pasty „	1 9	..	1 11	2 0	.. 2 1
Mexican, black „	1 9	..	2 0	2 2	.. 2 5
silver „	1 9	..	1 10	2 2	.. 2 3
Teneriffe, black „	2 0	..	3 8	2 2	.. 3 9
silver „	1 11	..	2 2	2 2	.. 2 4
SOAP, Castile „ per cwt.	33 0	..	34 0	33 0	.. 34 0
SPONGE, Turk. fin. pkd prib.	12 0	..	16 0	12 0	.. 16 0
Fair to good „	4 0	..	11 0	4 0	.. 11 0
Ordinary „	1 0	..	3	1 0	.. 3 6
Bahama „	0 6	..	3 6	0 6	.. 2 6
TERRA JAPONICA—					
Gambier „ per cwt.	25 3	..	25 6	26 6	.. 27 0
Free cubes „	35 0	..	42 0	35 0	.. 36 0
Cutch „	22 6	..	23 0	21 0	.. 23 0
WOOD, DYE, Bar „ per ton	45 0	..	40 0	43 15	.. 44 0
Brazil, Branch „	20 0	..	26 0	27 0	.. 30 0
Logs „	9 0	..	18 0	9 0	.. 16 0
Cam „	21 0	..	32 0	10 0	.. 23 0
Fastic, Cuba „	9 0	..	9 5	8 0	.. 8 10
Jamaica „	6 0	..	7 0	6 0	.. 6 10
Loowood, Campeachy „	9 0	..	9 10	8 5	.. 9 0
Honduras „	6 5	..	6 15	6 10	.. 6 15
St. Domingo „	5 2/6	..	5 10	5 5	.. 0 6
Jamaica „	5 2/6	..	5 10	4 17/6	.. 5 4/6
LIMA, 1st pile „	11 15	..	13 0	9 10	.. 11 0
RED SANDS „	6 5	..	6 15	6 7/6	.. 6 10



SO₂.—Even good qualities of coal contain nearly three per cent. of iron pyrites, and some specimens a very much larger amount. The sulphur dioxide produced in the combustion of the coal is in great part converted into sulphuric acid in the atmosphere, and is therefore extremely injurious. It has been calculated that in cities like Manchester or Glasgow as much as 20 tons of oil of vitriol, formed in this way, are brought down by the rain in one year alone.

H. M. L.—We should recommend you to use the powdered extract of colocynth : this with blue pill and extract of henbane would then form a good firm mass, without the help of any excipient.

A Chemists' Club.—Mr. H. Judd, of 38 The Grove, New Wandsworth, would like to communicate with *Hopeful*, who wrote a letter in our last on the formation of a chemists' club, to see whether it would be possible to organise such.

Mica Panis.—The great outcry against the employment of alum in bread and the deleterious influence which it is said to exert is probably due far more to prejudice and imagination than actual fact. Still, the introduction of alum is unquestionably a fraud, as by its use the baker is enabled to palm off bread made from inferior flour as though made from that of the best quality. The precise action of the alum is not very clear. We know that when flour is kept for some time exposed to the air the gluten undergoes a peculiar change. It loses its elastic, insoluble condition, and becomes converted into a substance much resembling diastase. Professor Odling has shown that in this state it is capable of transforming a considerable quantity of the starch of the flour into dextrin and sugar, and hence bread made from such inferior flour is of a sticky, sodden consistence, and brown colour. The same chemist attributes the action of alum, in whitening the bread, to its power of preventing the altered gluten from exerting its influence on the starch.

Sinapis.—There is a scientific reason for preparing flour of mustard from a mixture of both the black and the white seeds. The seeds of *Sinapis nigra* contain myronate of potassium and a substance analogous to vegetable albumen or emulsion, termed myrosin. Those of *Sinapis alba* contain no myronate of potassium, but they contain myrosin, and an acrid principle called sinapin, which, under the influence of myrosin and water, yields the pungency. In the black seeds the myrosin, in the presence of water, decomposes the myronate of potassium, producing, amongst other things, the volatile oil of mustard, sulphocyanide of allyl. Now, it is found that the amount of the vegetable ferment, myrosin, present in the black seeds is not sufficient to decompose the whole of the potassium salt, whilst in the white seeds it is superabundant. Consequently, by mixing the two varieties, the proportions of the constituents are adjusted, and the full pungency developed. Two parts of black to three of white seeds are the proportion commonly adopted.

X. X.—We have little doubt but that you are breaking the Pharmacy Act. You say you dispense medicines for a surgeon and supply them to his patients and to your own private friends. Evidently you are not a *bona fide* surgeon's assistant, and apparently you do "keep open shop for the retailing, dispensing, or compounding of poisons." This renders you liable to a penalty of five pounds.

An Apprentice (Liverpool), who writes us a letter for publication complaining that he has to perform the duties of an errand boy, would do well to take a more cheerful view of life. There are some of our best living pharmacists who now pride themselves that in youth they did "the duties of an errand boy." But they did even those duties well; and at the same time they prepared themselves for other positions. A Persian proverb says that "a stone that is fit for the wall will be used sooner or later."

W. B. E.—This correspondent thinks it somewhat grasping on the part of the Pharmaceutical Society to charge a fee of two guineas for the registration of apprentices, when it accepts certificates in lieu of examination, those certificates, as our correspondent remarks, not being obtained without expenditure. We can explain matters best by a small anecdote. A fashionable, but somewhat frugally disposed, friend of ours went one day to Mr. Poole, in Saville Row, and asked that eminent artist in cloth if he would make him a coat out of his (the purchaser's) cloth. Mr. Poole most readily acceded, and the thing was done. The bill for the coat was five guineas. Our friend remonstrated, observing that this was exactly the sum charged when cloth was included. "Oh, certainly," was Mr. Poole's ready response, "we always give the cloth; it's the cut we charge for." The secretary of the Pharmaceutical Society might give an analogous reply; they are always willing to give an examination, it's the cut they charge for.

Teething Powder.—Will C., who furnished a formula for this in our April column, be good enough to inform J. A. T. how Pulv. Antim. Comp. is made?

C. S.—The German Pharmacopoeia, which has superseded the others you name, orders for "Pulvis Liquiritiæ Compositus" (Pulv. Glycyrrh. Co. Ph. Pruss.) :—

Senna, Liquorice, of each 2 parts.

Fennel Seed, Washed Sulphur, of each 1 part.

White Sugar, 6 parts.

All in fine powder. To be well mixed.

England.—Your letter on the "Corner for Students" is held over for further consideration. A great many more students enter each competition than is indicated by the published list. For various reasons a good many fail to send their results.

C. C.—Dissolve the isinglass in very dilute cold acetic acid and add the jelly so formed to the beer. When in contact with water, isinglass very speedily undergoes decomposition, and we know of no antiseptic which could be added without rendering it unfit for use as "finings."

Nemo.—The labels you submit are so worded that according to the construction of the Act, the preparations would no doubt be free from stamp duty; but the fact that circulars recommending the medicines have been issued is sufficient to render them liable.

D. H. G.—(1.) There is no more speedy or less painful way of destroying a dog or cat than by poisoning it with hydrocyanic acid. The best method of administering it is by a syringe, the animal being either held by another person, or its legs previously tied together.

(2.) The cyanide of potassium and tartaric acid should be mixed in the proportion of 65 grains of the former to 150 grains of the latter, both salts being previously dissolved in water. Such a solution would contain 27 grains of anhydrous hydrocyanic acid.

(3.) For rats and mice strychnia is by far the most effective. Three grains of the alkaloid mixed with a drachm of powdered sugar or starch, and then spread lightly on small pieces of bread and butter, will suffice to clear a "run" in a very short time.

(4.) We should recommend you to try a weak solution of bleaching powder, applied with a moderately stiff brush.

A. J. T.—Cherry tooth paste :—

R. Pulv. Aluminis ꝯss.

„ Iridis. Flor.

„ Cretæ.

„ Pot. Tart. Acid.

„ Oss. Sepiæ ãã ꝯss.

„ Cocci. ꝯi.

Ol. Caryophylli gtt xv.

Ol. Amygd. Ess. gtt xx.

Glycerini q.s.

Mix, allow to stand in mortar till the effervescence ceases, occasionally stirring.

The Illegible Prescription.—Four correspondents have favoured us with their attempts to decipher the elegant calligraphic specimen which we printed in our Notes and Queries last month. Curiously enough each of our subscribers dates from nearly opposite points of the compass, so that we think we may fairly take their results as indicating the average dispensing ability of this island. And if so, we may congratulate ourselves on the surprising unanimity with which our dispensers, by a kind of intuitive perception, spell out the hieroglyphics of cabalistic prescriptions. The patient especially, who jeopardised his existence by consulting the gentleman who is responsible for this particular production, has reason to be thankful that the careless recklessness of some prescribers is, to a great extent, neutralised by the conscientiousness and skill of the dispensing chemist. The mixture as dispensed by each of our correspondents, would certainly have varied in composition, but each would have carried out the intentions of the doctor far more closely than that individual deserved. W. W. and A. Scotch A. prentice agree in their statement of the constituents, viz., as being, Tinct. Columbæ, Mist. Camphoræ, Sp. Æth. Nit., Aq. Ment. Pip. and Aq. Desti. J. W. U. reads, Infus. Columbæ, and T. R., Tinct. Cinch. Lanc., instead of Mist. Camph. The directions all agree to be, "Capiat Coch. Ampl. ter die." If the signature is translated correctly, we shall be glad to tell "James Clark, Surgeon," a dozen lessons in good round hand, free of charge. We will even provide him with an A B C copy-book and a stic beside our editorial chair, besides offering him a little practical advice on the responsibilities of his position.

Since writing the foregoing, we have received the following rendering of the prescription from "A Pottery Chap," which seems to meet the case :

Tinct. Columbæ ʒij.

Mist. Camphoræ ʒi.

Spirit Ether Nitros. ʒi.

Aquæ Ment. Pip. ʒv.

Aqua dest. ʒij.

Capiat coch. mag. 1 ter in die.—James Allen, Surgeon.

Chemists.—Messrs. Butler & McCulloch, of South Row, Covent Garden will, no doubt, supply the herbs you want.

Jabns.—Mayne's "Medical Vocabulary" (Chnrchill), 8s. 6d., is the most complete work of the kind you want; if too dear, perhaps Beeton's "Medical Dictionary," 1s., would answer your purpose.



